



The 27th World Congress on
**Controversies in Obstetrics,
Gynecology & Infertility (COGI)**
All About Women's Health



In partnership with Reproductive BioMedicine Online (RBMO)

Paris, France
November 21-23, 2019

Congress Program



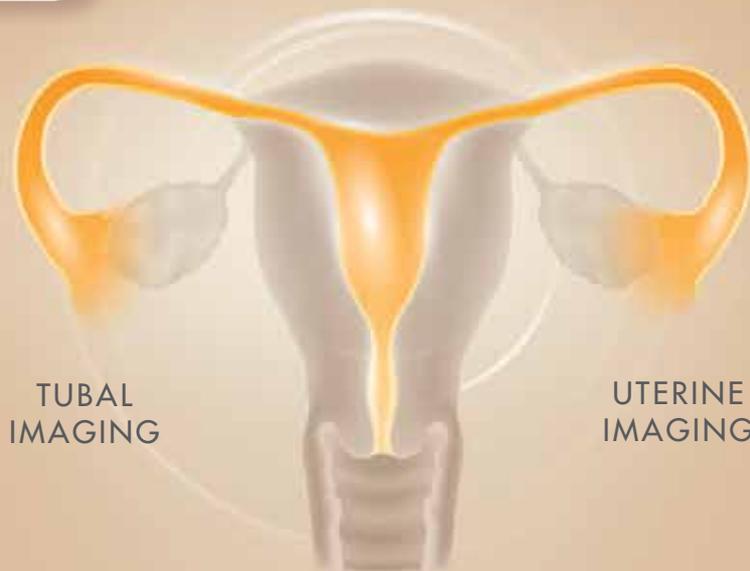
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1. Lindequist S et al. Diagnostic quality and complications of hysterosalpingography: oil- versus water-soluble contrast media—a randomized prospective study. *Radiology*. 1991 Apr;179(1):69-74. **2.** Nunley WC Jr et al. Intravasation during hysterosalpingography using oil-base contrast medium—a second look. *Obstet Gynecol*. 1987 Sep;70(3 Pt 1):309-12. **3.** Johnson NP et al. The FLUSH trial—flushing with lipiodol for unexplained (and endometriosis-related) subfertility by hysterosalpingography: a randomized trial. *Hum Reprod*. 2004 Sep;19(9):2043-51. **4.** Johnson NP et al. Lipiodol fertility enhancement: two-year follow up of a randomized trial suggests a transient benefit in endometriosis, but a sustained benefit in unexplained infertility. *Hum Reprod*. 2007 Nov;22(11):2857-62. **5.** Brent K et al. After the FLUSH trial: A prospective observational study of lipiodol flushing as an innovative treatment for unexplained and endometriosis-related infertility. *Aust N Z J Obstet Gynaecol*. 2006 Aug;46(4):293-7. **6.** Mohiyiddeen L et al. Tubal flushing for subfertility. *Cochrane Database Syst Rev*. 2015 May 1;(5):CD003718. **7.** Dreyer K et al. Oil-based or water-based contrast for hysterosalpingography in infertile women. *N Engl J Med*. 2017 May 25;376(21):2043-52. **8.** Izumi G et al. Oil-Soluble Contrast Medium (OSCM) for hysterosalpingography modulates dendritic cell and regulatory T cell profiles in the peritoneal cavity: a possible mechanism by which OSCM enhances fertility. *J Immunol*. 2017 Jun 1;198(11):4277-84. **9.** Decision Resources Group. *AMR Imaging database*. 2017. **10.** National Institute for Health and Clinical Excellence (NICE): guidance. *Fertility: assessment and treatment for people with fertility problems*. Feb 2013. Ref: 213280. **11.** Practice Committee of the American Society for Reproductive Medicine. *Diagnostic evaluation of the infertile female: a committee opinion*. *Fertil Steril*. 2015 Jun;103(6):e44-50. **12.** Canadian Fertility & Andrology Society. *CFAS consensus document for the investigation of infertility by first line physicians*. Aug 2002. **13.** The FIGO Fertility Tool Box™. 2012

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Timetable

THURSDAY, NOVEMBER 21, 2019

	HALL A	HALL B
14:00-15:00	THE BEST OF RBMO 2018-2019	
15:00-16:15	INTERVENTIONS THAT MATTER IN PREGNANCY MAINTENANCE A PREIS SCHOOL ACADEMY SESSION	15:00-18:00 LASER COURSE See page 177
16:15-16:45	INDUSTRY SUPPORTED SESSION See page 178	
16:45-18:30	HOT CONTROVERSIES IN INFERTILITY TREATMENTS	
18:30-19:30	OPENING SESSION NOBEL PRIZE LAUREATE ROBERT G. EDWARDS ANNUAL LECTURE BEST ABSTRACT AWARDS CEREMONY	
19:30-20:15	NETWORKING RECEPTION	

FRIDAY, NOVEMBER 22, 2019

	HALL A	HALL B	HALL C	HALL D	HALL E
	INFERTILITY/ART/IVF	INFERTILITY/ART/IVF II	GYNECOLOGY	FETOMATERNAL MEDICINE	ORAL PRESENTATIONS
08:30-10:00	AMH vs AFC...AND THE WINNER IS.....?	SCREENING OF THE MAN FOR INFERTILITY	HPV	PREGNANCY SUPPORT AND NIPT	ORAL PRESENTATIONS 01 - DIAGNOSTIC PROCEDURE/ GYNECOLOGICAL ONCOLOGY/ FETOMATERNAL MEDICINE
10:00-10:20	Coffee break, visit exhibition and poster viewing				
10:20-11:50	PCOS/PCO 	ADD-ON TREATMENTS	INDUSTRY SUPPORTED SESSION See page 178 	INDUSTRY SUPPORTED SESSION See page 179	ORAL PRESENTATIONS 02 - FETOMATERNAL MEDICINE
11:50-12:10	Break				
12:10-13:40	INDUSTRY SUPPORTED SESSION See page 179	LABORATORY WORK	VULVO-VAGINAL ATROPHY	MULTIPLE PREGNANCIES	ORAL PRESENTATIONS 03 - INFERTILITY/ART/IVF
13:40-14:30	Lunch break, visit exhibition and poster viewing				
14:30-16:30	STIMULATION, OOCYTES AND EMBRYOS 	IMPLANTATION MODELS	BREAST CANCER 	PRETERM DELIVERY	ORAL PRESENTATIONS 04 - FETOMATERNAL MEDICINE
16:30-16:50	Coffee break, visit exhibition and poster viewing				
16:50-18:20	ADENOMYOSIS AND ENDOMETRIOSIS	BLASTOCYSTS	PERIMENOPAUSAL SIDE EFFECTS AND MANAGEMENT	ENDOSCOPY DURING PREGNANCY BY SLS: THE SOCIETY OF LAPAROENDOSCOPIC SURGEONS	ORAL PRESENTATIONS 05 - GYNECOLOGY

SATURDAY, NOVEMBER 23, 2019

	HALL A	HALL B	HALL C	HALL D	HALL E
	INFERTILITY/ART/IVF	INFERTILITY/ART/IVF II	GYNECOLOGY	FETOMATERNAL MEDICINE	ORAL PRESENTATIONS
08:30-10:00	PGT-A 	FERTILITY PRESERVATION	PREDICTION OF MENOPAUSE AND RISK FACTORS	PREGNANCY MANAGEMENT	ORAL PRESENTATIONS 06 - FETOMATERNAL MEDICINE
10:00-10:20	Coffee break, visit exhibition and poster viewing				
10:20-11:50	INDUSTRY SUPPORTED SESSION See page 180	DIAGNOSIS OF INFERTILITY	UTERINE ANOMALIES; GYNE-ONCOLOGY	DIABETES 	ORAL PRESENTATIONS 07 - INFERTILITY/ART/IVF/ GYNECOLOGY
11:50-12:10	Break				
12:10-13:40	Q & A	Q & A in HALL A	ADVANCES IN HORMONAL TREATMENT	CAESEREAN SECTION 	ORAL PRESENTATIONS 08 - OTHER
13:40-14:30	Lunch break, visit exhibition and poster viewing				
14:30-16:30	HI-TECH IVF: ARTIFICIAL GAMETE AND EMBRYOS	WHAT'S NEW IN POI RESEARCH I	PREVENTION OF MENOPAUSAL SYMPTOMS	INTRAPARTUM AND CHILDREN FOLLOW UP	ORAL PRESENTATIONS 09 - INFERTILITY/ART/IVF/OTHER
16:30-16:50	Coffee break, visit exhibition and poster viewing				
16:50-18:20	FREEZE ALL	WHAT'S NEW IN POI RESEARCH II	PERIMENOPAUSAL CONTRACEPTION	LABOR	ORAL PRESENTATIONS 10 - GYNECOLOGY



Words of Welcome from COGI Chairpersons

Dear Colleagues,

COGI and RBMO are delighted to welcome you to the magnificent city of Paris and to the 27th World Congress on Controversies in Obstetrics, Gynecology and Infertility.

World renowned leaders in the field of Ob/Gyn and infertility, will review advances, breakthroughs and controversies in the field via round table discussions, debates, and lectures. Highlights of the program include the "Robert G. Edwards Nobel Prize Laureate" lecture, cutting edge "countercurrent" lectures by leading experts "who think differently", an inspiring fetomaternal medicine program, sessions on early prenatal diagnosis, pregnancy support, age-related risks, nutrition, the epidemic of multiple pregnancies, HPV, menopause, and more. As always, there will be ample time during every session for speaker-audience discussions.

We would like to thank our industry supporters for their investment in COGI. Without this continued support, we would not be able to offer such a high level of knowledge to be shared with a truly international delegation.

We look forward to thought-provoking debates, enjoyable discussions and an overall exchange of knowledge. We wish you an excellent congress experience.

Looking forward to welcoming you in 2020, to Berlin where the COGI experience will continue.

Sincerely,

COGI Congress Co-Chairpersons



Zion Ben Rafael
Israel



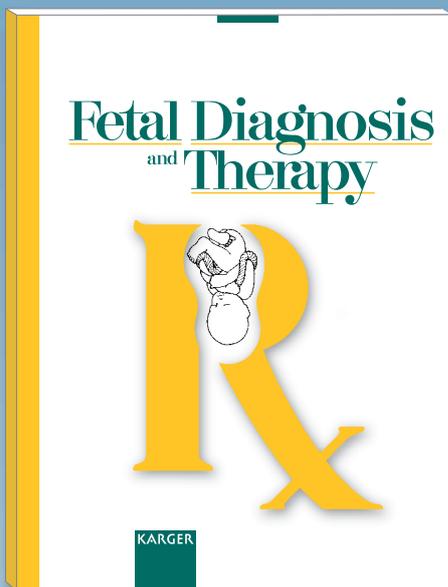
Bart C.J.M. Fauser
Netherlands



Rene Frydman
France



Key titles in fetal medicine



Editor-in-Chief
E. Gratacós, Barcelona

Fetal Diagnosis and Therapy

2019: Volume 45, 46
6 issues per volume
Language: English
ISSN: 1015-3837 (print)
e-ISSN: 1421-9964 (online)

www.karger.com/fdt



Editor-in-Chief
T.M. D'Hooghe, Leuven

Gynecologic and Obstetric Investigation

2019: Volume 84
6 issues per volume
Language: English
ISSN: 0378-7346 (print)
e-ISSN: 1423-002X (online)

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General Information

VENUE

MARRIOTT HOTEL
Paris Marriott Rive Gauche Hotel & Conference Center
17, Boulevard Saint Jacques
75014 Paris – France

LANGUAGE

The official language of the congress is English.

REGISTRATION AND FACULTY DESK OPENING HOURS

Thursday, November 21 12:30-20:00
Friday, November 22 07:30-18:30
Saturday, November 23 08:00-18:30

CONGRESS ADMISSION – NAME BADGE

Admission to the scientific sessions, exhibition area and congress-related events is by badge only. All participants are kindly requested to carry their personal badge received upon registration at all times while at the congress.

EXHIBITION OPENING HOURS

Thursday, November 21 19:30-20:15
Friday, November 22 09:30-17:00
Saturday, November 23 09:30-17:00

E-POSTERS

All the posters are presented in electronic format. The e-Posters are located on Level 0 and will be open to all participants on Thursday, Friday and Saturday during the exhibition hours.

INTERNET

Wireless internet is complimentary in all congress areas.
Network: **COGI2019**
Password: **COGI2019**

CERTIFICATE OF ATTENDANCE (non-CME/CPD)

Certificates of attendance will be available for all participants and may be collected at the Registration Desk on Saturday, November 23.

CME ACCREDITATION

The 27th COGI Congress has been accredited by the European Accreditation Council for Continued Medical Education (EACCME®) for a maximum of 21 CME credits (ECMEC®s).
To receive your CME accreditation certificate, please visit the congress website after the congress and complete the online form. Your certificate will be sent to you approximately 30 days after completion of the survey.

REFRESHMENTS

The networking reception will be held on Thursday, November 21 at 19:30 in the exhibition area on Level 0. Coffee/tea and lunch will be served in the exhibition area on Friday, November 22 and Saturday, November 23, during the official catering breaks.

SPEAKERS' PREVIEW ROOM

All invited speakers and oral presenters are asked to upload their presentations at the speakers' preview room (Scene G and H on Level 0 adjacent to the exhibition area) **at least 2 hours** before the start of their session. The room will be open during the following hours:

Thursday, November 21 13:00-19:00
Friday, November 22 07:30-18:00
Saturday, November 23 08:00-18:00



CLOAKROOM

The cloakroom is located on Level 0 behind the e-Posters (Scene D)

Thursday, November 21 13:30–20:30
Friday, November 22 07:30–18:30
Saturday, November 23 08:00–18:30

SAFETY AND SECURITY

Please do not leave any bags or other personal belongings unattended at any time, whether inside or outside the session halls.

LIABILITY AND INSURANCE

The COGI Congress secretariat and the organizers cannot accept liability for personal accidents, or loss or damage to private property of participants, either during or directly arising from the 27th COGI Congress. Participants are advised to make their own arrangements with respect to health and travel insurance.

RECORDING POLICY

Recording (photographic, video and audio) of the session is **strictly prohibited**.

SOCIAL MEDIA

Follow COGI social media pages for the latest updates, key date reminders, and discussions with colleagues and experts from around the world.

-  **COGI Congress**
-  **Controversies in Obstetrics, Gynecology & Infertility (COGI)**
-  **@cogicongress / #COGI**
-  **cogicongress**

COGI AT YOUR FINGERTIPS

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Scientific Program



THURSDAY, NOVEMBER 21

PLENARY SESSIONS | HALL A

14:00-15:00	THE BEST OF RBMO 2018-2019	HALL A
Capsule	The three best papers published in RBMO in 2018 are presented in this session	
Chairperson	Bart Fauser , <i>Netherlands</i>	
14:00-14:20	An evidence-based scoring system for prioritizing mosaic aneuploid embryos following preimplantation genetic screening Francesca Grati , <i>Italy</i>	
14:20-14:40	Predicting live birth for poor ovarian responders: The PROsPeR concept Philippe Lehert , <i>Australia</i>	
14:40-15:00	The impact of antenatal Bisphenol: An exposure on male reproductive function at 20–22 years of age Roger J. Hart , <i>Australia</i>	
15:00-16:15	INTERVENTIONS THAT MATTER IN PREGNANCY MAINTENANCE A PREIS SCHOOL ACADEMY SESSION	HALL A
Capsule	Prevention of repeated abortion and preterm birth: Any similarities?	
Chairpersons	Gian Carlo Di Renzo , <i>Italy</i> Kypros Nicolaides , <i>UK</i>	
15:00-15:25	What do we know about preventing threatened abortion and recurrent miscarriage? Adam Devall , <i>UK</i>	
15:25-15:50	Is "Aspirin" valuable only for preventing preeclampsia or also for preterm birth? Kypros Nicolaides , <i>UK</i>	
15:50-16:15	Cannabis in pregnancy Michael Dor , <i>Israel</i>	
16:15-16:45	INDUSTRY SUPPORTED SESSION <i>See Page 178</i>	HALL A
16:45-18:30	HOT CONTROVERSIES IN INFERTILITY TREATMENTS	HALL A
Chairpersons	Rene Frydman , <i>France</i> Zion Ben Rafael , <i>Israel</i> Bart Fauser , <i>Netherlands</i>	
Capsule	Reproduction is a delicate balancing act. A viable embryo must interact with a receptive endometrium. A small window of opportunity during which the embryo orchestrates its attachment and fate exists. Insight to this process could improve Implantation rates and pregnancy success overall. For simplicity, the coordination of the process has been historically attributed to estrogen, progesterone and to embryo quality. Is it that simple?	
16:45-17:15	Is it the embryo or the endometrium? Pregnancy: Embryo-led maternal adaptive response. PIF determining regulatory role Eytan Barnea , <i>USA</i>	
Capsule	Human embryo genome editing holds great promise to cure several diseases and avoid the necessity of discarding embryos. In addition, whole chromosome editing may rescue aneuploid embryos from patients of advanced maternal age. However, recent events have hampered progress in the field, with many calling for a global moratorium on both research and clinical development. How far should we go with this?	



17:15-17:45	Human embryo gene editing Nathan Treff, USA	
Capsule	The microbiome is a big unknown, the “elephant in the room” of reproductive health. What do we know? What do we have to know?	
17:45-18:15	Reproductive tract microbiome and its relevance to pregnancy outcome and neonatal/post-natal development Jerome Strauss, USA	
Capsule	2020 will mark the launching of the international cervical cancer elimination campaign. The role of the health care providers will be examined	
18:15-18:30	Milestones towards cervical cancer elimination Xavier Bosch, Spain	
18:30-19:30	OPENING SESSION	HALL A
Capsule	PCOS is a life-long reproductive disorder, which is extremely prevalent but is often underdiagnosed, in part because of its heterogeneity, and due to the existence of various phenotypes. Although there remain large gaps in our knowledge base, the transition of PCOS from adolescence to menopause and beyond will be discussed.	
Chairpersons	Zion Ben Rafael, Israel Bart Fauser, Netherlands Rene Frydman, France	
18:30-19:15	<i>Nobel prize laureate Robert G. Edwards annual lecture</i> PCO/PCOS, before during and after reproductive life Roger A. Lobo, USA	
19:15-19:30	Best Abstract Award Ceremony	
19:30-20:15	NETWORKING RECEPTION	EXHIBITION AREA
15:00-18:00	LASER COURSE <i>See page 177</i>	HALL B



FRIDAY, NOVEMBER 22

INFERTILITY/ART/IVF | HALL A

08:30-10:00	AMH vs AFC...AND THE WINNER IS.....?	HALL A
Capsule	Are we still debating on the role of AMH in the diagnosis and treatment of infertility?	
Chairpersons	Scott Nelson, UK Nick Macklon, UK	
08:30-09:15	Debate: Is AMH a good predictor for success in IVF cycles?	
08:30	Pro: Antonio La Marca, Italy	
08:45	Con: Joop Laven, Netherlands	
09:00	Discussion	
09:15-10:00	Debate: Are we really misinforming young women on their reproductive potential by using AMH and AFC testing?	
09:15	Yes: Edgardo Somigliana, Italy	
09:30	No: Antonio La Marca, Italy	
09:45	Discussion	

10:00-10:20

COFFEE BREAK, VISIT THE EXHIBITION AND POSTER VIEWING

EXHIBITION AREA

10:20-11:50	PCOS/PCO	HALL A 
Capsule	PCOS is considered the most common endocrine disorder in reproductive age. However, the prevalence (6.5-17.8%), as well as the long-term risks, vary widely with the diagnostic tests and criteria. Should we change the criteria?	
Chairpersons	Roger A. Lobo, USA Zion Ben Rafael, Israel	
10:20-11:05	Debate: Androgens are the villain in PCOS	
10:20	Con: Joop Laven, Netherlands	
10:35	Pro: Jerome Strauss, USA	
10:50	Discussion	
11:05-11:50	Debate: We must screen PCOS cases for the presence of the metabolic syndrome	
11:05	Pro: Bart Fauser, Netherlands	
11:20	Con: Philippe Bouchard, France	
11:35	Discussion	

11:50-12:10

BREAK

12:10-13:40	INDUSTRY SUPPORTED SESSION <i>See page 179</i>	HALL A
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13:40-14:30

LUNCH BREAK, VISIT THE EXHIBITION AND POSTER VIEWING

EXHIBITION AREA



14:30-16:30	STIMULATION, OOCYTES AND EMBRYOS	HALL A 
Capsule	Stimulation, the first step in IVF, has never been in consensus	
Chairpersons	Victor Gomel , <i>Canada</i> Scott Nelson , <i>UK</i>	
14:30-15:00 14:30 14:40 14:50	<u>Debate: Ovarian stimulation: More or Less?</u> Less is more: Geeta Nargund , <i>UK</i> No! New twists in ovarian stimulation: More is better: Dominique de Ziegler , <i>France</i> Discussion	
15:00-15:20	GnRH agonists and IVF: The end or not? Joelle Belaisch Allart , <i>France</i>	
15:20-15:40	The numbers of small (2-5 and 6-9 mmm) follicles are inversely correlated in both normal women and in PCOS: What is the missing link? Sophie Catteau-Jonard , <i>France</i>	
15:40-16:30	COGI SPECIAL COUNTERCURRENT SYMPOSIA	
Capsule	The next stage in improving the result, is understanding what's wrong with what we're doing	
15:40-16:05	RCTs may not be the answer to all outstanding questions in IVF Bart Fauser , <i>Netherlands</i>	
16:05-16:30	Repeated implantation failure: An iatrogenic phenomenon which leads to many unnecessary activities Zion Ben Rafael , <i>Israel</i>	

16:30-16:50

COFFEE BREAK, VISIT THE EXHIBITION AND POSTER VIEWING

EXHIBITION AREA

16:50-18:20	ADENOMYOSIS AND ENDOMETRIOSIS	HALL A
Capsule	The concept that uterine adenomyosis and pelvic endometriosis as well as endometriotic lesions at distant sites of the body share a common pathophysiology with endometriosis was promoted almost a decade ago. What is the current thinking?	
Chairpersons	Marie-Madeline Dolmans , <i>Belgium</i> Philippe Descamps , <i>France</i> Aleksandar Stefanović , <i>Serbia</i>	
16:50-17:10	Adenomyosis and deep endometriosis: Two linked diseases? Jacques Donnez , <i>Belgium</i>	
17:10-17:45 17:10 17:25 17:40	<u>Debate: The endometrioma and the ovarian reserve: The challenge of the surgeon</u> To operate first: Herve Fernandez , <i>France</i> ART before operation: Edgardo Somigliana , <i>Italy</i> Discussion	
17:45-18:20 17:45 18:00 18:15	<u>Debate: Deep-endometriosis should be operated prior to ART</u> Pro for surgery first: Olivier Donnez , <i>Belgium</i> Cons for IVF first (against surgery): Pietro Santulli , <i>France</i> Discussion	

 Recorded sessions



FRIDAY, NOVEMBER 22

INFERTILITY/ART/IVF | HALL B

08:30-10:00	SCREENING OF THE MAN FOR INFERTILITY	HALL B
Capsule	Have we neglected the treatment of male infertility? Can better screening improve the overall results?	
Chairpersons	Christopher Barratt, UK Christopher De Jonge, USA Giuseppe Tritto, France	
08:30-08:35	Introduction Christopher Barratt, UK	
08:35-09:00	Screening of the man for infertility; Why its necessary (canary in the coal mine) Michael Eisenberg, USA	
09:00-09:25	The Male Reproductive Health initiative Christopher De Jonge, USA	
09:25-09:50	Use of Social Media platforms to inform the public about male reproductive health issues Allan Pacey, UK	
09:50-10:00	Discussion	

10:00-10:20

COFFEE BREAK, VISIT THE EXHIBITION AND POSTER VIEWING

EXHIBITION AREA

10:20-11:50	ADD-ON TREATMENTS	HALL B
Capsule	Add-on treatments: The best solution to keep patients from quitting the program?	
Chairpersons	Anja Pinborg, Denmark Ben Mol, Australia	
10:20-11:05 10:20 10:35 10:50	Debate: Standard IVF vs Add-on IVF - What if the patient is willing to pay for add-ons? Con: Joyce Harper, UK Pro: Simon Fishel, UK Discussion	
11:05-11:30	ICSI does not increase the cumulative live birth rate in non-male factor infertility Elizabeth A. Sullivan, Australia	
11:30-11:50	Is there a relationship between the time to ICSI and the reproductive outcomes? Amelia Rodríguez-Aranda, Spain	

11:50-12:10

BREAK

12:10-13:40	LABORATORY WORK	HALL B
Capsule	Basic issues in lab work are still controversial	
Chairperson	Mina Popovic, Belgium	
12:10-12:30	IVF and the lab: Which culture medium to use Aafke van Montfoort, Netherlands	



12:30-13:15 12:30 12:45 13:00	Debate: Still room for embryo morphological evaluation? Yes: in favor: Luca Gianaroli, Italy No: against: Marine Poulain, France Discussion
13:15-13:40	The secret lives of human embryos exposed through time-lapse. An analysis of over 300 SET cycles Diana Stein, Israel

13:40-14:30

LUNCH BREAK, VISIT THE EXHIBITION AND POSTER VIEWING

EXHIBITION AREA

14:30-16:30	IMPLANTATION MODELS	HALL B
Capsule	IVF failure is mainly due to embryonal or endometrial reasons?	
Chairpersons	Nick Macklon, UK Simon Fishel, UK	
14:30-14:50	Complex endometrial organoids to model embryo implantation Emma Lucas, UK	
14:50-15:15	Organoids from healthy and diseased endometrium as innovative research tools in reproductive biology Hugo Vankelecom, Belgium	
15:15-15:40	Implantation Clinic: Hope or hype? Nick Macklon, UK	
15:40-16:30	SPECIAL COGI COUNTERCURRENT LECTURES	
15:40-16:05	Can IVF influence human evolution? Hans Ivar Hanevik, Norway	
16:05-16:30	Endometrial receptivity testing: Can the most reliable test stand up? Samuel Dos Santos Ribeiro, Belgium	

16:30-16:50

COFFEE BREAK, VISIT THE EXHIBITION AND POSTER VIEWING

EXHIBITION AREA

16:50-18:20	BLASTOCYSTS	HALL B
Capsule	Single euploid, morphologically intact blastocyst seems like the holy grail of IVF. So why we are still debating?	
Chairpersons	Laura Rienzi, Italy Scott Nelson, UK	
16:50-17:15	Chromosomal mosaicism in human blastocysts: The ultimate challenge of preimplantation genetic testing? Mina Popovic, Belgium	
17:15-17:35	Prevalence of XXY karyotypes in human blastocysts: Multicenter data from 7549 trophoctoderm biopsies obtained during preimplantation genetic testing cycles in IVF Laura Rienzi, Italy	
17:35-18:20 17:35 17:50 18:05	Debate: Blastocyst-stage embryo transfer for all Yes: Samir Hamamah, France No: Amelia Rodríguez-Aranda, Spain Discussion	



FRIDAY, NOVEMBER 22

GYNECOLOGY | HALL C

08:30-10:00	HPV	HALL C
Capsule	As the cervical cancer elimination campaign takes shape, several initiatives are being considered in practical contexts. The session will explore some of them and specifically the role of the gynecologists	
Chairperson	Xavier Bosch , <i>Spain</i>	
Panelists	Mario Poljak , <i>Slovenia</i> Maaïke Bleeker , <i>Netherlands</i> Pier Luigi Lopalco , <i>Italy</i> Kevin Pollock , <i>UK</i>	
	<ul style="list-style-type: none"> • General frame on cervical cancer elimination • Female HPV vaccine acceptance. Vaccination achievements • Vaccination crisis • Safety of the vaccines and the Cochrane dispute • Male vaccination. Expected penetrance and impact • Vaccinating women in screening ages (25-45+) • Transition to HPV primary screening in Europe • Self-sampling initiatives in Europe and in developing countries • HPV testing technology. Validation of tests • Questions from the audience 	

10:00-10:20

COFFEE BREAK, VISIT THE EXHIBITION AND POSTER VIEWING

EXHIBITION AREA

10:20-11:50	INDUSTRY SUPPORTED SESSION	HALL C
	<i>See page 178</i>	

11:50-12:10

BREAK

12:10-13:40	VULVO-VAGINAL ATROPHY/ GSM	HALL C
Capsule	Laser treatment for vulvo-vaginal atrophy, a transit relief or paradigm shift?	
Chairpersons	Santiago Palacios , <i>Spain</i> Alessandra Graziottin , <i>Italy</i>	
12:10-12:55	Debate: Do we need RCTs for laser in VVA/GSM or are observational data enough? For RCTs: Santiago Palacios , <i>Spain</i> For observational/registry data: Marco Gambacciani , <i>Italy</i> Discussion	
12:10		
12:25		
12:40		
12:55-13:20	Can lasers reduce overactive bladder symptoms? Zdenko Vizintin , <i>Slovenia</i>	
13:20-13:40	VVA – Do we need to change nomenclature to GSM? Bari Kaplan , <i>Israel</i>	

13:40-14:30

LUNCH BREAK, VISIT THE EXHIBITION AND POSTER VIEWING

EXHIBITION AREA



14:30-16:30	BREAST CANCER	HALL C 
Capsule	Breast cancer epidemic and hormonal replacement: What is the relationship?	
Chairpersons	Herjan Coelingh Bennink , <i>Netherlands</i> Nicholas Panay , <i>UK</i>	
14:30-14:55	Can HRT be individualized to reduce the incidence of breast cancer? Mark Brincat , <i>Malta</i>	
14:55-15:15	Prescribing Contraception and HRT in BRCA carriers Anne Gompel , <i>France</i>	
15:15-16:00 15:15 15:30 15:45	<u>Debate: Does HRT increase the risk of breast cancer?</u> Yes: Serge Rozenberg , <i>Belgium</i> No: Mark Brincat , <i>Malta</i> Discussion	
16:00-16:30	Special countercurrent lecture: Treatment of advanced breast cancer with high dose estrogens Herjan Coelingh Bennink , <i>Netherlands</i>	

16:30-16:50

COFFEE BREAK, VISIT THE EXHIBITION AND POSTER VIEWING

EXHIBITION AREA

16:50-17:55	PERIMENOPAUSAL SIDE EFFECTS AND MANAGEMENT	HALL C
Capsule	Perimenopausal and menopausal side effect	
Chairpersons	Ann Gompel , <i>France</i> Alessandra Graziottin , <i>Italy</i>	
16:50-17:10	Hot flushes, peripheral or central nervous system? Mark Brincat , <i>Malta</i>	
17:10-17:35	Update on isoflavones in menopause Christian Egarter , <i>Austria</i>	
17:35-17:55	Endometriosis in the menopause Marco Gambacciani , <i>Italy</i>	

 Recorded sessions



FRIDAY, NOVEMBER 22

FETOMATERNAL MEDICINE | HALL D

08:30-10:00	PREGNANCY SUPPORT AND NIPT	HALL D
Chairpersons	Patrick Rozenberg , <i>France</i> Gian Carlo Di Renzo , <i>Italy</i>	
	PROBIOTICS AND PREGNANCY SUPPORT	
08:30-08:55	The role of probiotics and <i>Lactobacillus reuteri</i> during pregnancy: What is the evidence? Flavia Indrio , <i>Italy</i>	
08:55-09:15	How do different cfDNA tests compare? Should we expand the scope of cfDNA testing beyond common trisomies? Gian Carlo Di Renzo , <i>Italy</i>	
	NIPT	
09:15-09:35	NIPT: What the physician should know about the test? Francois Vialard , <i>France</i>	
09:35-10:00	NIPT for everyone? Gerard Visser , <i>Netherlands</i>	

10:00-10:20

COFFEE BREAK, VISIT THE EXHIBITION AND POSTER VIEWING

EXHIBITION AREA

10:20-11:50	INDUSTRY SUPPORTED SESSION	HALL D
	<i>See page 179</i>	

11:50-12:10

BREAK

12:10-13:40	MULTIPLE PREGNANCIES	HALL D
Capsule	Twins remain a high-risk pregnancy despite all monitoring capabilities	
Chairpersons	Gerard Visser , <i>Netherlands</i> Patrick Rozenberg , <i>France</i>	
12:10-13:35	Assessment of fetal growth in twins Asma Khalil , <i>UK</i>	
12:35-13:20	Debate: Should we recommend fetal reduction from twins to singleton	
12:10	Pro- Yariv Yogev , <i>Israel</i>	
12:25	Con- Gerard Visser , <i>Netherlands</i>	
12:40	Discussion	
13:20-13:40	How to avoid stillbirth in twins Asma Khalil , <i>UK</i>	

13:40-14:30

LUNCH BREAK, VISIT THE EXHIBITION AND POSTER VIEWING

EXHIBITION AREA



14:30-16:30	PRETERM DELIVERY	HALL D
Capsule	Are we advancing in the diagnosis and management of preterm birth?	
Chairpersons	Asma Khalil , <i>UK</i> Ariel Many , <i>Israel</i> Francois Vialard , <i>France</i>	
14:30-14:50	Prediction of preterm birth: Cervical length and biomarkers Patrick Rozenberg , <i>France</i>	
14:50-15:15	Late preterm delivery: Do we underestimate the problem? Yariv Yogev , <i>Israel</i>	
15:15-15:35	Controversies about the secondary prevention of spontaneous preterm birth Franz Bahlmann , <i>Germany</i>	
15:35-16:00	What is the evidence that any tocolytics work? Ben Mol , <i>Australia</i>	
16:00-16:30	Special countercurrent lecture: Placental microbiome: What do we know, what should we know? Jerome Strauss , <i>USA</i>	

16:30-16:50

COFFEE BREAK, VISIT THE EXHIBITION AND POSTER VIEWING

EXHIBITION AREA

16:50-18:20	ENDOSCOPY DURING PREGNANCY BY SLS: THE SOCIETY OF LAPAROENDOSCOPIC SURGEONS	HALL D
Capsule	Laparoscopy and pregnancy: An update by SLS	
Chairpersons	Jessica Ybanez-Morano , <i>USA</i> Thiers Soares Raymundo , <i>USA</i>	
16:50-17:20	Laparoscopic cerclage Thiers Soares Raymundo , <i>Brazil</i>	
17:20-17:50	Laparoscopy and pregnancy: The fundamentals Jessica Ybanez-Morano , <i>USA</i>	
17:50-18:20	Laparoscopic interventions for infertility Stefano Landi , <i>Italy</i>	



FRIDAY, NOVEMBER 22

ORAL PRESENTATIONS | HALL E

08:30-10:00	ORAL PRESENTATIONS 01 – DIAGNOSTIC PROCEDURE/GYNECOLOGICAL ONCOLOGY/FETOMATERNAL MEDICINE	HALL E
Chairperson	Alessandra Graziottin, Italy	
DIAGNOSTIC PROCEDURES		
08:30-08:37	OP1-101 The diagnostic accuracy of 3-dimensional saline infusion transvaginal ultrasound (3-D SIS) Compared with combined laparoscopic - hysteroscopic procedure in the distinction between septate and bicornuate uteri Ebrahimi Mahbod, Iran	
08:37-08:44	OP1-102 Value of vaginal fetal fibronectin and cervical interleukin-8 in predicting premature birth Dat Do Tuan, Vietnam	
08:44-08:51	OP1-103 Management of endometriosis in women at reproductive age: Systematic review and critical appraisal of current guidelines including 2018 Spanish Fertility Society endometriosis clinical guideline Maria Carrera, Spain	
08:51-08:58	OP1-104 MTHFR in a large infertile cohort of more than 2500 patients: Incidence, effect of treatment and impact on other systems Arthur Clement, France	
08:58-09:05	OP1-105 Treatment for MTHFR (methylenetetrahydrofolate reductase) C677T mutations carriers with 5 methylene tetrahydrofolate (5MTHF) improves their ART outcomes Patrice Clement, France	
GYNECOLOGICAL ONCOLOGY		
09:05-09:12	OP1-106 Cyclical versus continuous oral progestin monotherapy in endometrial hyperplasia without atypia Hui Men Selina Chin, Singapore	
09:12-09:19	OP1-107 Cytoreductive surgery and hyperthermic intraperitoneal chemotherapy in an adolescent patient with a recurrent uterine leiomyosarcoma as peritoneal sarcomatosis Payam Katebi Kashi, USA	
09:19-09:26	OP1-108 Evaluation of gynecologic cancer awareness and cancer worry in women Dilek Coskuner Potur, Turkey	
09:26-09:33	OP1-109 A systematic review with meta-analysis of NRF2 as a prognostic marker for breast cancer survival Micaela Almeida, Portugal	
09:33-09:40	OP1-110 Cytotoxicity of soursop leaves (<i>annona muricata</i>) against hela cervical cancer cells Fona Qorina, Indonesia	



FETOMATERNAL MEDICINE

09:40-09:47	OP1-111 A rare case of atypical hemolytic uremic syndrome following medical termination of pregnancy Umme Farwa Shah, UK
09:47-09:54	OP1-112 Prevent mother-to-child transmission (PMTCT) programs and enhancement of maternal healthcare infrastructure to improve early detection of maternal syphilis in Shanghai, China Li Du, China

10:00-10:20

COFFEE BREAK, VISIT THE EXHIBITION AND POSTER VIEWING

EXHIBITION AREA

10:20-11:50	ORAL PRESENTATIONS 02 – FETOMATERNAL MEDICINE	HALL E
Chairperson	Bari Kaplan, Israel	
10:20-10:27	OP1-201 Pregnancy complications and its management: An experience at district hospital of Nepal Manohar Joshi, Nepal	
10:27-10:34	OP1-202 Group a streptococcal (GAS) infections in obstetrics and gynecology Arthur Zaltz, Canada	
10:34-10:41	OP1-203 Clinical safety and efficacy of dinoprostone gel for cervical ripening in a pregnant women not in labor Julienne Katrina Beltran, Philippines	
10:41-10:48	OP1-204 Relationship between success and failure rates of SMUCS with antepartum, intrapartum and postpartum factors in atonic uterine cases at Dr. Soetomo Hospital Surabaya during 2012-2017 Tizar Dwi Satyoputro, Indonesia	
10:48-10:55	OP1-205 Correlation of timing of delivery and maternal and fetal outcomes among women with severe preeclampsia: A descriptive cross-sectional study Maria Margarita Sayao-Manuel, Philippines	
10:55-11:02	OP1-206 Laparoscopic surgery in pregnancy after the second trimester: A case series Alexandra Wisentaner, UK	
11:02-11:09	OP1-207 Risk factors for severe perineal tears among first versus repeat vaginal delivery Danit Aviv, Israel	
11:09-11:16	OP1-208 Prevalence, risk factors and aetiologies of postpartum pyrexia in the Douala General Hospital, Cameroon Ngunyi Yannick Lechedem, Cameroon	
11:16-11:23	OP1-209 Self-reported health outcomes of donor conceived and spontaneously conceived adults Damian Adams, Australia	



FRIDAY, NOVEMBER 22

11:23-11:30	OP1-210 Anteroposterior renal pelvic diameter on ultrasound among male and female Filipino fetuses at 24 to 28 weeks age of gestation: A comparative study Cathy Bernabe-Hisanan , <i>Philippines</i>
11:30-11:37	OP1-211 Glycated haemoglobin and risk for large for gestational age neonates in gestational diabetes pregnancies Carolina Carneiro , <i>Portugal</i>
11:37-11:44	OP1-212 Oxytocin use in grand multipara with dysfunctional labor and one previous cesarean section results in high rate of normal deliveries Yara Naser , <i>Israel</i>

11:50-12:10

BREAK

12:10-13:40	ORAL PRESENTATIONS 03 - INFERTILITY/ART/IVF	HALL E
Chairperson	Geeta Nargund , <i>UK</i>	
12:10-12:19	OP1-301 Does IVF/ICSI condemn you to a caesarean section? A local population-based study Maria Petra Agius , <i>Malta</i>	
12:19-12:28	OP1-302 Opinions of French women on surrogate pregnancy and ethical aspects Souhail Alouini , <i>France</i>	
12:28-12:37	 OP1-303 GSTT1 and GSTM1 deletion is a risk factor for infertility in women Maria Manuel Casteleiro Alves , <i>Portugal</i>	
12:37-12:46	OP1-304 Day-6 frozen-thawed blastocysts transfer on day-5 compared with day-6: Catching up with the window of implantation – A retrospective study Asaf Bilgory , <i>Israel</i>	
12:46-12:55	OP1-305 Are babies born through ART at higher risk of anomalies – A population-based study Eleanor Brincat , <i>Malta</i>	
12:55-13:04	OP1-306 Evaluation of age, AMH and AFC as predictors of ovarian response to treatment in IVF cycles Olivia Anne Cassar , <i>Malta</i>	
13:04-13:13	OP1-307 Correlation between sperm DNA defects and mutational status of the MTHFR gene: Impact of treatment Arthur Clement , <i>France</i>	



Young Scientist Best Abstract



13:13-13:22	OP1-308 Progesterin-primed ovarian stimulation (PPOS) protocol for in vitro fertilization, oocyte donors or fertility preservation systematic review and meta-analysis Jose Antonio Dominguez, Spain
13:22-13:31	OP1-309 Preventive strategies for preovulatory progesterone elevation during ovarian stimulation for in vitro fertilization Emina Ejubovic, Bosnia and Herzegovina
13:31-13:40	OP1-310 Effects of controlled ovarian hyperstimulation on the expression of endometrial tissue glycodefin-a during midluteal phase of Macaca nemestrina Afif Rasyad, Indonesia

13:40-14:30

LUNCH BREAK, VISIT THE EXHIBITION AND POSTER VIEWING

EXHIBITION AREA

14:30-16:30	ORAL PRESENTATIONS 04 – FETOMATERNAL MEDICINE	HALL E
Chairpersons	Yael Arbel, Israel Emina Ejubovic, Bosnia and Herzegovina	
14:30-14:38	OP1-401 Phaleria macrocarpa`s extracts inhibits autophagy probably through MDA in huvec cell culture Leo Simanjuntak, Indonesia	
14:38-14:46	 OP1-402 A multi-centre analysis of the incidence of second stage (fully dilated) caesarean sections Asad Rahim, UK	
14:46-14:54	OP1-403 Of pregnancies complicated with small for gestation age babies at term, what proportions have placental findings with implications for future pregnancies or neonatal outcomes Roberto Orefice, Australia	
14:54-15:02	OP1-404 Positive pregnancy outcome in women with phenylketonuria is possible! Zhao Xuan Tan, UK	
15:02-15:10	OP1-405 Case of heterotopic pregnancy (ovarian and intrauterine) in a 30-year-old patient Gene Afzelia Austria, Philippines	
15:10-15:18	OP1-406 Management of a paraganglioma in pregnancy Payam Katebi Kashi, USA	
15:18-15:26	OP1-407 Predictive value for spontaneous preterm birth in women presenting with preterm labor: Comparison of placental alpha microglobulin-1 and fetal fibronectin according to the cervical length Woo Jeng Kim, South Korea	



FRIDAY, NOVEMBER 22

15:26-15:34	OP1-408 Evaluation of efficiency of myomectomy during cesarean section Vafa Huseynzade, Azerbaijan
15:34-15:42	OP1-409 Obstetric performance of huge babies (>4800gm) Linda Harel, Israel
15:42-15:50	OP1-410 Can pravastatin / l-arginine therapy improve placental perfusion and umbilical artery vascular resistance in singleton pregnancies? Aleksandar Jurisic, Serbia
15:50-15:58	OP1-411 Vaginal microorganism and its influence in pre-term delivery Sara Bernardes da Cunha, Portugal
15:58-16:06	OP1-412 Is 3D omniview ultrasound helpful for diagnosis of fetal cleft palate? Zaklina Jurisic, Serbia
16:06-16:14	OP1-413 Is induction of labour at term a safe and effective strategy to reduce the risk of stillbirth in South Asian origin mothers? William Stobie, Australia
16:14-16:22	OP1-414 Risk factors analysis and different outcomes in peripartum cardiomyopathy (PPCM) patients with and without hypertensive disorders in Hasan Sadikin General Hospital, Bandung, West Java, Indonesia Saskia Soraya, Indonesia
16:22-16:30	OP1-415 Cause and consequence of fever in pregnant women: A retrospective study in a gynecological emergency department Charles Egloff, France

16:30-16:50

COFFEE BREAK, VISIT THE EXHIBITION AND POSTER VIEWING

EXHIBITION AREA



16:50-18:20	ORAL PRESENTATIONS 05 - GYNECOLOGY	HALL E
Chairperson	Mordechai Ben David , <i>Israel</i>	
16:50-16:58	OP1-501 The effect of simulation method on knowledge, critical thinking and clinical decision-making level of nursing students for the management of pregnancy with preeclampsia Ayse Akalin , <i>Turkey</i>	
16:58-17:06	OP1-502 Medical or surgical method in treatment of symptomatic uterine myoma Athar Rasekh Jahromi , <i>Iran</i>	
17:06-17:14	OP1-503 Laser therapy of condylomata acuminata Urska Bizjak-Ogrinc , <i>Slovenia</i>	
17:14-17:22	OP1-504 The management of gynecological hemorrhages - Hypogastric artery ligation technique Petru Chitulea , <i>Romania</i>	
17:22-17:30	OP1-505 Fertility and conception in a patient with virilizing adrenocortical carcinoma: A case report Michael Dayrit , <i>Philippines</i>	
17:30-17:38	OP1-506 Myomatous erythrocytosis syndrome: A case series Glaiza De Guzman , <i>Philippines</i>	
17:38-17:46	OP1-507 Laparoscopic cornual excision (wedge resection) or laparoscopic cornuostomy and removal of ectopic pregnancy to preserve uterus for future pregnancies? That is the question Mahmoud Rahimi , <i>Australia</i>	
17:46-17:54	OP1-508 Pracau protocol: New protocol for chronic pelvic pain syndrome Ernesto Delgado Cidranes , <i>Spain</i>	
17:54-18:04	OP1-509 Serum proprotein convertase subtilinin-kexin type 9 (PCSK-9) levels in patients with normal and over-weight / obesity polycystic over syndrome Sinem Eldem , <i>Turkey</i>	
18:04-18:12	OP1-510 Laser treatment for genitourinary syndrome of menopause. Is there any evidence? Ivan Fisticic , <i>Croatia</i>	
18:12-18:20	OP1-511 Non-ablative laser treatment of lichen sclerosus et atrophicus – Comparison with topical corticosteroid therapy Sabina Sencar , <i>Slovenia</i>	



SATURDAY, NOVEMBER 23

INFERTILITY/ART/IVF | HALL A

08:30-10:00	PGT-A	HALL A 
Capsule	Is PGS useful or harmful?	
Chairpersons	Simon Fishel, UK Gerald Schatten, USA	
08:30-09:00	PGT-A for advanced maternal age and repeated abortion: Useful or harmful? Nathan Treff, USA	
09:00-09:30	RCT of PGT for aneuploidy by microarray of polar body in advance maternal age. Any advantage? The Esteem Study Luca Gianaroli, Italy	
09:30-10:00	PGD/PGT-A without embryo biopsy, is this the answer? Samir Hamamah, France	

10:00-10:20 **COFFEE BREAK, VISIT THE EXHIBITION AND POSTER VIEWING** **EXHIBITION AREA**

10:20-11:50	INDUSTRY SUPPORTED SESSION <i>See page 180</i>	HALL A
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11:50-12:10 **BREAK**

12:10-13:40	QUESTIONS AND ANSWERS FROM HALL A AND B	HALL A
Chairpersons	Zion Ben Rafael, Israel Rene Frydman, France Bart Fauser, Netherlands	
Discussants	Nick Macklon, UK Edgardo Somigliana, Italy Samir Hamamah, France Joop Laven, Netherlands Simon Fishel, UK Laura Rienzi, Italy	
	<ul style="list-style-type: none"> • In which selected patient populations is PGS/ PGT-A proven beneficial? • Freeze all embryos strategies in IVF for all? • Duo stim? Why bother? • Embryo selection with highest implantation potential: Tell me how? • ERA test: Who can it benefit? • Natural and natural/mild cycles, are they the same? Are we misleading each other? • Is Machine Learning beginning to improve IVF outcomes. What can we expect in the future? • What is the best measure of IVF outcome from clinical, patients, healthcare system? • Is SET possible for all? If not, what is the percentage of SET should we strive for? Should it be age dependent? • LH or hCG: Which is more important for ovarian stimulation? 	

13:40-14:30 **LUNCH BREAK, VISIT THE EXHIBITION AND POSTER VIEWING** **EXHIBITION AREA**



14:30-16:30	HI-TECH IVF: ARTIFICIAL GAMETE AND EMBRYOS	HALL A
Capsule	Current capability promise more ethical questions	
Chairpersons	Dominique de Ziegler , <i>France</i> Nick Macklon , <i>UK</i>	
14:30-14:55	Artificial ovary Marie Madeleine Dolmans , <i>Belgium</i>	
14:55-15:15	Conception versus manufacturing: ART Prospects with artificial gametes and assembled embryos Gerald Schatten , <i>USA</i>	
15:15-15:40	Self-organization of the human embryo in the absence of maternal tissues Matteo Mole , <i>UK</i>	
15:40-16:00	Expanding PGT to polygenic risk Nathan Treff , <i>USA</i>	
16:00-16:30	Special countercurrent lecture: Are we overusing IVF? Fulco van der Veen , <i>Netherlands</i>	

16:30-16:50

COFFEE BREAK, VISIT THE EXHIBITION AND POSTER VIEWING

EXHIBITION AREA

16:50-18:20	FREEZE ALL	HALL A
Capsule	Now that RCTs have failed to prove its usefulness, it's time to discuss the overall advantages and disadvantages	
Chairpersons	Elena Labarta , <i>Spain</i> Rene Frydman , <i>France</i>	
16:50-17:20 16:50 17:00 17:10	<u>Debate: Freeze only strategy for all?</u> Con: Ben Mol , <i>Australia</i> Pro: Anja Pinborg , <i>Denmark</i> Discussion	
17:20-18:00 17:40 17:55 18:10	<u>Debate: Should we measure progesterone on the day of a frozen embryo transfer?</u> No: Annalisa Racca , <i>Belgium</i> Yes: Elena Labarta , <i>Spain</i> Discussion	
18:00-18:20	Comparing fresh and frozen embryo transfers in IVF: Cost effectiveness analysis Ben Mol , <i>Australia</i>	

 Recorded sessions



SATURDAY, NOVEMBER 23

INFERTILITY/ART/IVF | HALL B

08:30-10:00	FERTILITY PRESERVATION	HALL B
Capsule	With so many methods of fertility preservation, do they all offer similar probabilities?	
Chairpersons	Jacques Donnez , <i>Belgium</i> Michael Grynberg , <i>France</i>	
08:30-08:50	How many eggs do we need for preserving fertility? Nathalie Sermondade , <i>France</i>	
08:50-09:15	Oocytes or ovarian cortex cryopreservation for fertility preservation Jean-Philippe Wolf , <i>France</i>	
09:15-09:35	The place of IVM for fertility preservation Michael Grynberg , <i>France</i>	
09:35-10:00	Ovarian tissue cryopreservation and transplantation: Still experimental? Marie-Madeline Dolmans , <i>Belgium</i>	

10:00-10:20 COFFEE BREAK, VISIT THE EXHIBITION AND POSTER VIEWING EXHIBITION AREA

10:20-12:00	DIAGNOSIS OF INFERTILITY	HALL B
Capsule	Why should we keep doing HSG? Uterine transplantation, what kind of results can be expected?	
Chairpersons	Rene Frydman , <i>France</i> Katarina Jeremic , <i>Serbia</i>	
10:20-10:40	Uterine transplantation – The French experience Jean Marc Ayoubi , <i>France</i>	
10:40-11:00	Failure in IVF. What's next? A multidisciplinary approach Rene Frydman , <i>France</i>	
11:00-11:40	<u>Debate: Hysterosalpingogram how?</u> 11:00 Traditional oil-based HSG exploiting its therapeutic advantage: Ben Mol , <i>Australia</i> 11:15 Ecosy is a good alternative: Marc Even , <i>France</i> 11:30 Discussion	
11:40-12:00	Biomarkers of ovarian response Scott Nelson , <i>UK</i>	

12:00-12:10 BREAK

12:10-13:40	GO TO HALL A – QUESTIONS AND ANSWERS SESSION
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13:40-14:30 LUNCH BREAK, VISIT THE EXHIBITION AND POSTER VIEWING EXHIBITION AREA



14:30-16:30	WHAT'S NEW IN POI RESEARCH – I	HALL B
Capsule	Can POI patients have any chance for normal fertility?	
Chairpersons	Lisa Webber, UK Nicholas Panay, UK	
14:30-14:50	Genetics of menopause Joop Laven, Netherlands	
14:50-15:20	Genetics of POI. Novel links with DNA repair/cancer genes Micheline Misrahi, France	
15:20-15:40	Fertility and management of Turner syndrome Sophie Christin-Maitre, France	
15:40-16:00	Stem cells in and out the ovaries: Promises for POI Gabriel Livera, France	
16:00-16:30	Special countercurrent lecture: Vaginal Lactobacilli: Key to successful human reproduction and future antibiotic resistant therapy Gary Ventolini, USA	

16:30-16:50

COFFEE BREAK, VISIT THE EXHIBITION AND POSTER VIEWING

EXHIBITION AREA

16:50-18:20	WHAT'S NEW IN POI RESEARCH – II	HALL B
Capsule	Can POI patients have any chance for normal fertility?	
Chairpersons	Roger A. Lobo, USA Micheline Misrahi, France	
16:50-17:10	Can we reliably predict POI using AMH? Bart Fauser, Netherlands	
17:10-17:35	Regulation of physiological reproductive lifespan and female fertility Grant Montgomery, Australia	
17:35-17:55	Developing new guidelines from a POI registry Nicholas Panay, UK	
17:55-18:20	The long-term health risks of POI Lisa Webber, UK	



SATURDAY, NOVEMBER 23

GYNECOLOGY | HALL C

08:30-10:00	PREDICTION OF MENOPAUSE AND RISK FACTORS	HALL C
Capsule	Can we predict and prevent menopausal complications and side effects?	
Chairpersons	Nicholas Panay , <i>UK</i> Christian Egarter , <i>Austria</i>	
08:30-09:00	Is there an increased CVD risk in PCOS women? Roger A. Lobo , <i>USA</i>	
09:00-09:30	Does anti-Müllerian hormone predict menopause in the general population? Results of a prospective ongoing cohort study Joop Laven , <i>Netherlands</i>	
09:30-10:00	Cardiovascular impact of progestins in women Christian Egarter , <i>Austria</i>	

10:00-10:20

COFFEE BREAK, VISIT THE EXHIBITION AND POSTER VIEWING

EXHIBITION AREA

10:20-11:50	UTERINE ANOMALIES; GYNE-ONCOLOGY	HALL C
Capsule	Counselling on protection of fertility became a standard of care	
Chairpersons	Ludwig Kiesel , <i>Germany</i> Alessandra Graziottin , <i>Italy</i>	
	UTERINE ANOMALIES	
10:20-10:45	Symmetric and non-symmetric uterine anomalies Leila Adamyan , <i>Russia</i>	
10:45-11:05	Counseling young women with uterovaginal anomalies George Creatsas , <i>Greece</i>	
	GYNE-ONCOLOGY	
11:05-11:30	Protecting reproductive potential in (gynecological) cervical cancer Pierluigi Benedetti Pancini , <i>Italy</i>	
11:30-11:50	Protecting reproductive potential in ovarian cancer Catherine Uzan , <i>France</i>	

11:50-12:10

BREAK

12:10-13:40	ADVANCES IN HORMONAL TREATMENT	HALL C
Capsule	What is the ideal SERMs and SPRMs	
Chairpersons	Mark Brincat , <i>Malta</i> George Creatsas , <i>Greece</i>	
12:10-12:40	New progestogens / SPRMs: What are the possibilities? Christian Egarter , <i>Austria</i>	
12:40-13:10	New SERMs / TSECS: Can they be an HRT substitute? Santiago Palacios , <i>Spain</i>	
13:10-13:40	Targeting HRT: From indication to personalization Marco Gambacciani , <i>Italy</i>	

13:40-14:30

LUNCH BREAK, VISIT THE EXHIBITION AND POSTER VIEWING

EXHIBITION AREA



14:30-16:30	PREVENTION OF MENOPAUSAL SYMPTOMS	HALL C
Capsule	Are we back to consensus in HRT?	
Chairpersons	Santiago Palacios , <i>Spain</i> Serge Rozenberg , <i>Belgium</i>	
14:30-14:55	Should we use HRT for "prevention" in postmenopausal women Roger A. Lobo , <i>USA</i>	
14:55-15:15	How to overcome hormone resistance in women with breast cancer? Ludwig Kiesel , <i>Germany</i>	
15:15-16:00 15:15 15:30 15:45	<u>Debate: Should androgens be routinely offered to optimize quality of life in menopause?</u> For: Alessandra Graziottin , <i>Italy</i> Against: Lydia Marie-Scemama , <i>France</i> Discussion	
16:00-16:30	Special countercurrent lecture: Testosterone: The need for a new consensus Nicholas Panay , <i>UK</i>	

16:30-16:50

COFFEE BREAK, VISIT THE EXHIBITION AND POSTER VIEWING

EXHIBITION AREA

16:50-18:20	PERIMENOPAUSAL CONTRACEPTION	HALL C
Capsule	Oral contraception until menopause?	
Chairpersons	Mark Brincat , <i>Malta</i> Bari Kaplan , <i>Israel</i>	
16:50-17:10	Perimenopausal contraception: What are the current options? Christian Egarter , <i>Austria</i>	
17:10-17:35	What are the future contraceptive possibilities? Philippe Bouchard , <i>France</i>	
17:35-17:55	Minimizing cardiovascular risks of perimenopausal contraception Lydia Marie-Scemama , <i>France</i>	
17:55-18:20	Optimizing psychosexual health with perimenopausal contraception Alessandra Graziottin , <i>Italy</i>	



SATURDAY, NOVEMBER 23

FETOMATERNAL MEDICINE | HALL D

08:30-10:00	PREGNANCY MANAGEMENT	HALL D 
Capsule	Basic aspects of labour management are still in debate	
Chairpersons	Florence Bretelle , <i>France</i> Mattheos Fraidakis , <i>Greece</i>	
08:30-09:00 08:30 08:40 08:50	<u>Debate: Betamethasone after 35 weeks of gestation?</u> Pro: Yariv Yogev , <i>Israel</i> Con: Gerard Visser , <i>Netherlands</i> Discussion	
09:00-09:20	French recommendations on PTL Florence Bretelle , <i>France</i>	
09:20-09:40	Should we be advising our patients to take a hike? Physical activity in pregnancy: 2019 update Milena Forte , <i>Canada</i>	
09:40-10:00	A new perspective on high order cesarean deliveries up to number eleven Mirra Manevich-Mazor , <i>Israel</i>	

10:00-10:20

COFFEE BREAK, VISIT THE EXHIBITION AND POSTER VIEWING

EXHIBITION AREA

10:20-11:50	DIABETES	HALL D 
Capsule	The controversies relating to the definition and management of GDM are not abated	
Chairpersons	Gerard Visser , <i>Netherlands</i> Susana Santo , <i>Portugal</i>	
10:20-11:00	Controversies in the management of GDM Yariv Yogev , <i>Israel</i>	
11:00-11:25	Women with gestational diabetes should be delivered at 38 weeks Diogo Ayres-de-Campos , <i>Portugal</i>	
11:25-11:50	Assessing the risks for shoulder dystocia Ariel Many , <i>Israel</i>	

11:50-12:10

BREAK

12:10-13:40	CAESAREAN SECTION	HALL D
Capsule	The technique and the consequences of CS remains in debate	
Chairpersons	Bari Kaplan , <i>Israel</i> Diogo Ayres-de-Campos , <i>Portugal</i>	
12:10-12:30	Controversies around C-section techniques Susana Santo , <i>Portugal</i>	

 Recorded sessions

12:30-12:55	Why do niches (CS defects) form? Are they a problem? Ben Mol, Australia
12:55-13:15	Caesarean scar defect (Nich): Corrective methods Olivier Donnez, Belgium
13:15-13:40	What is the optimal 'decision to incision' interval in cesarean section? Dan Farine, Canada

13:40-14:30

LUNCH BREAK, VISIT THE EXHIBITION AND POSTER VIEWING

EXHIBITION AREA

14:30-16:30	INTRAPARTUM AND CHILDREN FOLLOW UP	HALL D
Capsule	Is ART pregnancy high risk?	
Chairpersons	Dan Farine, Canada Gerard Visser, Netherlands	
14:30-14:55	Child health after ART Anja Pinborg, Denmark	
14:55-15:15	Pregnancy in advance maternal age Dan Farine, Canada	
15:15-15:35	How to promote vaginal breech delivery Maria Afonso, Portugal	
15:35-16:00	Conservative management of intrapartum hypoxia Susana Santo, Portugal	
16:00-16:30	Special countercurrent lecture: All women in labor should be continuously monitored with CTG and fully mobile Diogo Ayres-de-Campos, Portugal	

16:30-16:50

COFFEE BREAK, VISIT THE EXHIBITION AND POSTER VIEWING

EXHIBITION AREA

16:50-18:20	LABOR	HALL D
Capsule	Still controversies over delivery practice!	
Chairpersons	Dan Farine, Canada Patrick Rozenberg, France	
16:50-17:25 16:50 17:00 17:10	Debate: Should we use the partogram? FIGO guidelines say yes: Gerard Visser, Netherlands WHO guidelines say no: Dan Farine, Canada Discussion	
17:25-18:00 17:25 17:35 17:45	Debate: Should all women be induced at 39 weeks? Pro: Ariel Many, Israel Con: Gerard Visser, Netherlands Discussion	
18:00-18:20	Outpatient induction of labor for all? Maria Afonso, Portugal	



SATURDAY, NOVEMBER 23

ORAL PRESENTATIONS | HALL E

08:30-10:00	ORAL PRESENTATIONS 06 - FETOMATERNAL MEDICINE	HALL E
Chairpersons	Linda Harel , <i>Israel</i> Arthur Clement , <i>France</i>	
08:30-08:37	OP2-601 Labor induction in patients with a single prior caesarean section Paul Funel , <i>France</i>	
08:37-08:44	OP2-602 Which factors may influence women's satisfaction and preferences in future mode of delivery? Ana Rita Sarabando , <i>Portugal</i>	
08:44-08:51	OP2-603 The effect of cervical cerclage on pregnancy outcome in women following electrosurgical conization Jihyun Park , <i>South Korea</i>	
08:51-08:58	OP2-604 Effects on preventing mother-to-child transmission of syphilis and syphilis associated adverse pregnant outcomes: A longitudinal study from 2001 to 2015 in Shanghai, China Mao Hongfang , <i>China</i>	
08:58-09:05	OP2-605 Predictive factors for successful vaginal delivery after a trial of external cephalic version Asaf Bilgory , <i>Israel</i>	
09:05-09:12	OP2-606 Previous history of gestational alloimmune liver disease: How to prevent Maria Pulido Valente , <i>Portugal</i>	
09:12-09:19	OP2-607 All options by cholecalciferol treatment of threatening miscarriage Margarita Bakleicheva , <i>Russia</i>	
09:19-09:26	OP2-608 Accuracy of the ultrasound fetal weight estimation before vaginal birth after a caesarian (VBAC) according to the maternal body mass index (BMI) Ons Kaabia , <i>Tunisia</i>	
09:26-09:33	OP2-609 Predictors of gestational diabetes risk in the first trimester of pregnancy Aleksandra Epishkina-Minina , <i>Russia</i>	
09:33-09:40	OP2-610 Effects of progesterone on preterm premature rupture of membrane treatment model Soon-Cheol Hong , <i>South Korea</i>	
09:40-09:47	OP2-611 Diagnosis and management of placenta previa and low placental implantation Souhail Alouini , <i>France</i>	
09:47-09:54	OP2-612 The effect of anesthesia maintenance with propofol and sevoflurane to cortisol, SFLT-1 and MDA level in severe preeclamptic patient underwent sectio cesarean Theresia Monica Rahardjo , <i>Indonesia</i>	

10:00-10:20

COFFEE BREAK, VISIT THE EXHIBITION AND POSTER VIEWING

EXHIBITION AREA



10:20-11:50	ORAL PRESENTATIONS 07 - INFERTILITY/ART/IVF/GYNECOLOGY	HALL E
Chairpersons	Nathalie Sermondade , <i>France</i> Mark Brincat , <i>Malta</i>	
ART/IVF/INFERTILITY		
10:20-10:27	OP2-701 Is letrozole the answer to PCOS women who fail to ovulate with clomiphene citrate and with gonadotropins Shalini Gainder , <i>India</i>	
10:27-10:34	OP2-702 The role of FSH to AMH ratio in predicting the number of oocyte retrieved or cycle cancellation with low prognosis patients undergoing ICSI cycle Ilay Gozukara , <i>Turkey</i>	
10:34-10:41	OP2-703 Evolution of the sexual behaviour et dysfunctions in women in infertile couples Ons Kaabia , <i>Tunisia</i>	
10:41-10:48	OP2-704 A study of 2,013 donor-conceived people Wendy Kramer , <i>USA</i>	
10:48-10:55	OP2-705 Clinical and communication challenges of European and Latin American embryologists, nurses, and laboratory specialists involved in fertility care Laura Rienzi , <i>Italy</i>	
10:55-11:02	OP2-706 Synergistic effect of obesity with polycystic ovarian syndrome on endothelial dysfunction. Role of insulin resistance Mardia Lopez-Alarcon , <i>Mexico</i>	
11:02-11:09	OP2-707 Retroperitoneal ectopic pregnancy: A case report from Hanoi Obstetrics and Gynecology Hospital Toan Nguyen , <i>Vietnam</i>	
11:09-11:16	OP2-708 Results of TRA after meteroplasty by uterus in T shape Cerrillo Maria , <i>Spain</i>	
11:16-11:23	OP2-709 Leptin expression on midluteal endometrial tissue of macaca nemestrina after controlled ovarian hyperstimulation: Glandular, stromal and luminal analysis Adriana Viola Miranda , <i>Indonesia</i>	



SATURDAY, NOVEMBER 23

GYNECOLOGY

11:23-11:30	OP2-710 Do not forget ectopic pregnancy even with negative pregnancy test! A deceptive time bomb Happy Tawadros, UK
11:30-11:37	OP2-711 Relationship between prolactin and dopamine receptor expression and progression of genital endometriosis Maria Yarmolinskaya, Russia
11:37--11:44	OP2-712 Sheehan's syndrome in a patient presenting with organizing hematoma of the maxillary sinus Viktoria Ines Matibag, Philippines

11:50-12:10

BREAK

12:10-13:40	ORAL PRESENTATIONS 08 - OTHER	HALL E
Chairpersons	Mordechai Ben David, Israel Arthur Clement, France	
12:10-12:17	OP2-801 Outcomes of pregnancy of unknown location using serum BHCG and ultrasound in a district general hospital in United Kingdom Ananya Banerjee, UK	
12:17-12:24	OP2-802 Five year incidence of osteoporosis among Macao adult women and its risk factors - Results from Macao follow up study 2011 Ken Gu, China	
12:24-12:31	OP2-803 The impacts on maternal age and perinatal outcomes since the birth policy shifts: Population-based analysis Xiaohui Zhang, China	
12:31-12:38	 OP2-804 Human overpopulation as the greatest challenge for gynecology in the 21st century Jan Gregus, Czech Republic	
12:38-12:45	OP2-805 A case report on Hamman`s syndrome Nikit Kadam, UK	
12:45-12:52	OP2-806 Changes in intervertebral discs with the menopause and HRT Joel Pollacco, Malta	
12:52-12:59	OP2-807 Patient-centred or patient-friendly: What of them is the most relevant standard value in assisted reproduction treatments? Guillermo Quea, Spain	



Young Scientist Best Abstract



12:59-13:06	OP2-808 Sexual practice in pregnancy in women of low socioeconomic status in a tertiary care hospital in Northern India Chanda Rai, India
13:06-13:13	OP2-809 Stress among pregnant women applying for birth preparation training Fatma Cosar Cetin, Turkey
13:13-13:20	OP2-810 Organ-preserving surgery for abnormal invasion placenta Roman G. Shmakov, Russia
13:20-13:27	OP2-811 Pregnancy outcomes in women with myeloproliferative neoplasms Evgeniya Polushkina, Russia
13:27-13:34	OP2-812 Symptomatic Meckel's diverticulum – A rare trigger of preterm labour Maria Petra Agius, Malta

13:40-14:30

LUNCH BREAK, VISIT THE EXHIBITION AND POSTER VIEWING

EXHIBITION AREA

14:30-16:30		ORAL PRESENTATIONS 09 - INFERTILITY/ART/IVF/HPV/OTHER	HALL E
Chairperson	Eric Sedbon, France		
INFERTILITY/ART/IVF			
14:30-14:38	OP2-901 Changes in ovarian reserve after laparoscopic cystectomy of ovarian endometriomas – A prospective longitudinal study from Hanoi Obstetrics and Gynecology Hospital, Vietnam Nguyen Ha, Vietnam		
14:38-14:46	OP2-902 Sildenafil might impair maternal-fetal immunotolerance by suppressing MDSCS Huanhuan Jiang, China		
14:46-14:54	OP2-903 Effectiveness of hysteroscopy isthmoplasty in secondary infertile patients due to isthmocele Chien Nguyen, Vietnam		
14:54-15:02	OP2-904 The influence of legal and technological evolutions on patients' behaviour using donor eggs: A British experience Mona Rahmati, UK		
15:02-15:10	OP2-905 The adverse effect of body mass index in assisted reproduction treatments and pregnancy outcomes Diana Rodrigues-Martins, Portugal		
15:10-15:18	OP2-906 Biophysical ultrasonographic markers assessment of endometrial receptivity in assisted reproductive technology cycles Renato Silva Martins, Portugal		
15:18-15:26	OP2-907 Vitrification of human oocytes: How timing before freezing and after thawing affect utilization effectivity and state of thawed oocytes Olga Tepla, Czech Republic		



SATURDAY, NOVEMBER 23

HPV	
15:26-15:34	OP2-908 Health saving technologies in XXI century – Basic concepts of HPV-associated diseases control in Russian Federation Ilya Olkov, Russia
15:34-15:42	OP2-909 Urinary HPV DNA testing as a tool for cervical cancer screening in France: An update of the CAPU3 study Caroline Lefevre, France
15:42-15:50	OP2-910 International HPV awareness day in Russia on March 4, 2019 - Global Russian action for cervical cancer prevention Ilya Olkov, Russia
OTHER	
15:50-15:58	OP2-911 Bionanotechnologies in men's health medicine the sperm nanobiosomes (male reproduction, contraception, STD and ageing) Giuseppe Tritto, France
15:58-16:06	OP2-912 Impact of revised management policies on the efficiency of gynecologic operating room processes in a tertiary training hospital Glaiza De Guzman, Philippines
16:06-16:18	OP2-913 Matrix regeneration of the human testis in male infertility testis regenerative matrix (TREM) bioexpansion in testis insufficiency syndrome (TIS) testis expandable biosurgery and microsurgery (TEBS and TEMS) in male infertility based on autologous regenerative stem cells Giuseppe Tritto, France
16:18-16:30	OP2-914 Modifying the caesarean - Seven years on Chris Tsitlakidis, UK

16:30-16:50

COFFEE BREAK, VISIT THE EXHIBITION AND POSTER VIEWING

EXHIBITION AREA



16:50-18:20	ORAL PRESENTATION 10 - GYNECOLOGY	HALL E
Chairperson	Gary Ventolini, USA	
16:50-16:58	OP2-1001 Determination of serum endocan levels which is inflammatory marker in patients with premature ovarian failure Melike Guler, Turkey	
16:58-17:06	OP2-1002 A rare case of ovarian metastasis of esthesioneuroblastoma, a sinonasal cavity malignancy: A case report Maria Margarita Franchesca Lojo, Philippines	
17:06-17:14	OP2-1003 Epidermoid clitoral cyst: A rare cause of clitoromegaly Matilde Martins, Portugal	
17:14-17:22	OP2-1004 Surgical or medical treatment for ectopic pregnancy in unusual locations? That is the question Mahmoud Rahimi, Australia	
17:22-17:30	OP2-1005 Hysteroscopic repair of cesarean scar defect in women with abnormal uterine bleeding: A prospective study Nguyen Ha, Vietnam	
17:30-17:38	OP2-1006 Russian first HPV primary screening program in the Republic of Bashkortostan in action Ilya Olkov, Russia	
17:38-17:46	OP2-1007 GLIA cells number and BDNF expression in endometriosis mice with and without lipopolysaccharide (LPS) exposure Daniel Yoseph Pardomuan, Indonesia	
17:46-17:54	OP2-1008 Surgical or non-surgical treatment of uterine fibroids? That's the question Mahmoud Rahimi, Australia	
17:54-18:02	OP2-1009 Infertile PCOS patients treatment with optimal results and decrease the rate of OHSS Athar Rasekh Jahromi, Iran	
18:02-18:10	OP2-1010 Determining the relationship between married women's attitudes towards fertility and family planning and their intention to use contraceptive methods and affecting factors Asli Sis Celik, Turkey	
18:10-18:18	OP2-1011 Postpartum sexual dysfunction - A prospective study Diana Natacha Sousa, Portugal	



E-Poster Presentations

INFERTILITY/ART/IVF

P001	Heterotopic pregnancy after intra-cytoplasmic sperm injection: When identifying an intrauterine pregnancy is not enough Carolina Costa Gomes, Portugal
P002	Ovarian and endometrium platelet-rich plasma (PRP) therapy in reproductive medicine Menliddo Giovanni, Italy
P003	Endometrial thickness as a determinant of frozen embryo transfer outcomes Bethany Goulson, UK
P004	Exposure to propyl gallate hamper calcium hoemostasis and induced mitochondria dysfunction of testis, leading to male infertility Jiyeon Ham, South Korea
P005	Function of LIN28A/WNT/B-CATENIN in regulating premature ovarian failure Chen Jing, Hong Kong, China
P006	The association between progesterone levels on the day of oocyte maturation day and systemic inflammatory markers of complete blood count for fresh in vitro fertilization cycles Jieun Kang, South Korea
P007	Use of follitropin delta in controlled ovarian stimulation for in vitro fertilization in high responder patients: Case-control study Carrera Maria, Spain
P008	Efficacy of ICSI in overcoming fertility problems in men with auto immune reactivity to sperm (anti sperm antibody: ASA) Dashti Maryam, Bahrain
P009	Endometrial scratching and analysis uterine natural killer (UNK) improve pregnancy rate in infertile women with previous IVF failure Giovanni Menaldo, Italy
P010	Aromatase inhibitors (letrozole) versus clomiphene citrate as ovulation induction agents in patients with polycystic ovarian syndrome, and their role on ultrasonographic markers of endometrial receptivity Judith Marie Mifsud, Malta
P011	 Toxic effects of ochratoxin a on Sertoli and Leydig cells causing male infertility in mice Hahyun Park, South Korea
P012	Hormonal treatment prior to testicular sperm extraction (TESE) improves ICSI outcomes Mario Alfonso Patron Vazquez, Mexico
P013	Conception factors in unexplained infertility patients Baušytė Raminta, Lithuania
P014	Mediator in the embryo-endometrium cross-talk: Granulocyte colony-stimulating factor in infertility Chris Andrea Robert, USA
P015	Ovarian stimulation in low responders classified as group I AND II according to the Poseidon system Jesus Arnulfo Roiz Castro, Mexico
P016	Distinguishing between cornual and eccentrically located intrauterine pregnancy after intrauterine insemination - A case report study Rita Salgueiro Neto, Portugal
P017	Quantitative analysis of the SHLA-G protein in seminal plasma Andreas Schallmoser, Germany
P018	A case of live birth after embryo transfer with significant fluid in endometrial cavity Shayna Siew, Singapore
P019	Controlled ovarian stimulation in breast cancer patients: Does receptor status make a difference? Stephanie Sii, Australia
P020	Endometrial volume and adjusted endometrial volume assessment of endometrial receptivity in assisted reproductive technology cycles Renato Silva Martins, Portugal
P021	Outcome of ICSI-ET cycles in women presenting with low anti-Mullerian hormone in Southern India Dhodapkar Sneha Badwe, India
P022	Evaluation of clinical & embryological factors influencing pregnancy outcomes in the first frozen blastocyst transfer: A retrospective study, in IVF Hung Vuong Thanh Thuy Tran, Vietnam
P023	Comparison of live birth rates between frozen single and double embryo transfer following a failed fresh single blastocyst transfer Wong Ker Yi, Singapore
P024	Effect of jogyeongbohyeoldan (JBD) on the restoration of ovarian function in aged female mice Jeongeun Yoo, South Korea



Young Scientist Best Abstract



DIAGNOSTIC PROCEDURES

P025	Correspondence between ultrasound finding, hysteroscopy and histological results in premenopausal women Augusto Brandao, Brazil
P026	Bysteroscopic management of cesarean scar ectopic pregnancy: A case report Brás Ana Filipa, Portugal
P027	Comparison between operative hysteroscopy and histopathological findings Matilde Martins, Portugal
P028	Uterine bleeding in postmenopausal women – The role of hysteroscopy Diana Natacha Sousa, Portugal

FETOMATERNAL MEDICINE

P029	Do cervical intraepithelial neoplasia (CIN) and human papilloma virus (HPV) infection predispose to uterine tachysystole when double balloon catheter (DBC) is considered for cervical ripening? Case report Shady Abd Elmoneim, UK
P030	Anencephalus - First trimester detection Nurije Aliji, Republic of North Macedonia
P031	Peripartum cardiomyopathy after cesarean section in women with pre-eclampsia related to more severe outcome: Case series Suryawan Aloysius, Indonesia
P032	Prospective non invasive study of the endothelial function by uterine artery doppler flow velocimetry Eleferios Anastasakis, Greece
P033	Why 40 is not the new 20? Pregnancy and obstetrical outcomes in women of advanced maternal age Anita Barisic, Croatia
P034	The childbirth experience questionnaire (CEQ) - Validation of its use in a Danish-speaking population of new mothers stimulated with oxytocin during labour Sidsel Boie, Denmark
P035	Factors associated with successful vaginal birth after induction of labor in women with a previous cesarean section Ana Catarina Borges, Portugal
P036	Conservative management of early-onset preeclampsia with severe features: Maternal and perinatal results and assessment of causes for early delivery Augusto Brandao, Brazil
P037	Pharmacological treatment of gestational diabetes Carolina Carneiro, Portugal
P038	An unusual cause of acute abdominal pain in a pregnant didelphic uterus - A case report Olivia Anne Cassar, Malta
P039	 Chromosomal associations and genomic instability in idiopathic recurrent pregnancy loss(RPL) Abhik Chakraborty, India
P040	Incidence of asymptomatic bacteriuria in a local pregnant population Cassandra Cheong, Singapore
P041	Fetal pulmonary venous flow impedance in pregnancies with placental insufficiency-Related oligohydramnios Hyunjin Cho, South Korea
P042	Usefulness of fetal pulmonary venous impedance to predict low birth weight infants Hyunjin Cho, South Korea
P043	Anaemia during pregnancy in South Africa: Establishing the cause Vino Dorsamy, South Africa
P044	Antenatal diagnosis of absence of septum pellucidum Charles Egloff, France
P045	Currarino syndrome - A pre and post natal diagnosis correlation: Case report and literature review Catarina Ferreira, Portugal
P046	Iodine supplementation during pregnancy and neonatal outcomes Maria Flores Casteleiro, Portugal
P047	Chorionicity in twin pregnancies – Obstetric and neonatal impacts at the moment of delivery Maria Flores Casteleiro, Portugal



P048	Microna analysis of desidia derived mesenchymal stem cells from preeclampsia patient Tuba Gunel, Turkey
P049	Determining preterm labour through cervical biometrics and fetal fibronectin Elitsa Gyokova, Bulgaria
P050	Implications of extreme weight loss due to hyperemesis in pregnancy Nandini Halder, UK
P051	Afficiency of exographic examination of fetoplasentar system in women with uterine scar after myomectomy Yashar Hasanov, Azerbaijan
P052	Pregnancy of uncertain viability: Is prediction better than strategy? Helga Consiglio, Malta
P053	Perinatal mortality and morbidity in Finnish twins Riina Jernman, Finland
P054	Incidental myomectomy at time of vaginal delivery contributing to postpartum hemorrhage: A case report Payam Katebi Kashi, USA
P055	Uterine inversion presenting as a vaginal spotting at postpartum: A case report Hee-Sun Kim, South Korea
P056	The efficacy of third-generation cephalosporin plus metronidazole versus third-generation cephalosporin plus clarithromycin in neonatal outcomes and oxidative stress markers for women with preterm premature rupture of membranes Jong Woon Kim, South Korea
P057	Challenges in the diagnosis and screening for toxoplasma gondii during pregnancy: Results from a reference center in Brazil Cesar Rodrigues Larissa Cynthia, Brazil
P058	Association of the development of surgical site infection and post-operative oral antibiotics in low risk term pregnancies who underwent cesarean section in a low resource country hospital Carla Lenice Lee, Philippines
P059	High placental growth factor levels in women with suspected or with confirmed preeclampsia do not associate with bronchopulmonary dysplasia development in preterm neonates Vanessa Marcha, Netherlands
P060	Unruptured third trimester ovarian pregnancy: A case report Alexis Martinez, Philippines
P061	Claude-Bernard-Horner's syndrome during labour Ana Maria Munoz Ledesma, Spain
P062	Knowledge, attitude and practices of obstetricians and gynecologists on non-invasive prenatal testing in a private tertiary hospital in a low resource income country Kristel Danica Panes, Philippines
P063	Antibody microarray analysis of amniotic fluid proteins associated with subsequent ruptured membranes after clinically indicated amniocentesis in women with preterm labor Ye Hyon Park, South Korea
P064	P essary insertion in preterm twin gestation in the Philippines: A case report Koleen Pasamba, Philippines
P065	Maternal mortality in Mexico 2010-2018 Francisco Javier Posadas Robledo, Mexico
P066	Congenital x-linked intestinal pseudo-obstruction Carolina Rueda, Spain
P067	Dandy-Walker malformation: The importance of prenatal diagnosis. A case report Carolina Rueda, Spain
P068	Pregnant and newborn with restricted fetal growth - 5-year experience in a tertiary hospital Rita Salgueiro Neto, Portugal
P069	The role of TNF- α gene polymorphisms in preterm delivery Agnieszka Seremak-Mrozikiewicz, Poland
P070	The establishment of a score system for vaginal delivery of twin pregnancy Nan Shen, China
P071	The relationship between high vaginal swab cultures and preterm birth in women with cervical cerclage Emilia Shingleton, UK
P072	The use of levobupivacaine with or without ketorolac in post cesarean pain management: A randomized double-blinded control trial Artitaya Singwongsa, Thailand
P073	Delayed diagnosis of gestational diabetes mellitus in pregnant women with macrosomia at late pregnancy Jeenah Sohn, South Korea



P074	Antibiotic prophylaxis for preterm premature rupture of membrane based on their microbiology pattern and antibiotic susceptibility test: Is it appropriate? Saskia Medinawati Soraya, Indonesia
P075	Prenatal CF-DNA screening for down syndrome and other chromosomal abnormalities in unselected pregnancies in Slovenia Darija Mateja Strah, Slovenia
P076	Total antioxidant capacity level comparison between spontaneous abortion and normal pregnancy Alfonsus Zeus Suryawan, Indonesia
P077	Three cases of recurrent pregnancy loss complicated by complex chromosomal rearrangements Koichi Takakuwa, Japan
P078	Management of a rare case of non-immune hydrops and congenital chylothorax with diffuse lung disease Yin Ru Tan, Singapore
P079	Caffeine content in newborn hair correlates with maternal dietary intake Lauri Uusitalo, Finland
P080	Preconceptional training for women with varicose veins Mishshenko Valentyna, Ukraine
P081	Anticoagulant treatment in women with recurrent miscarriages with inherited thrombophilia Rita Vasconcelos, Portugal
P082	Type of conception in twin pregnancies - Obstetric and neonatal impacts at the moment of delivery Rita Vasconcelos, Portugal
P083	D vitamin deficiency among Danish pregnant women - A need for an increased supplementation in pregnancy? Anna Louise Vestergaard, Denmark
P084	Biometric data: Biparietal diameter, head circumference, abdominal circumference, femur length in our population (Portugal) Flavia Vicente, Portugal
P085	Fetal growth curves in the second trimester- Are there differences in the different regions? Flavia Vicente, Portugal
P086	Labor patterns in women undergoing vaginal birth after cesarean delivery in Shanghai China Li Wenxian, China
P087	Pathomorphological afterbirth peculiarities in early form of intrauterine fetus growth restriction Tetiana Yaremchuk, Ukraine
P088	Pregnancy outcomes in women with asymptomatic bacteriuria Tatiana Zefirova, Russia
P089	Expression of genetic markers of endothelial pathology in pregnant women Tatiana Zefirova, Russia

GYNECOLOGICAL ONCOLOGY

P090	Distribution of naturally-occurring IGG isotypes to HCG and its subunits in patients with ovarian cyst Nino Chikadze, Georgia
P091	Routine follow-up in women conservatively treated for endometrial hyperplasia must be recommended Clara Faurby Maarup, Denmark
P092	Association of CYP19A1 gene RS2414098 single nucleotide polymorphism with the risk of endometrial cancer Rushania Gabidullina, Russia
P093	Is there any relation between miRNAs and ovarian cyst to become ovarian cancer? Ece Gumusoglu, Turkey
P094	Reduction of bone mineral density and risk of osteoporosis in gynecologic cancer patients Yong Il Ji, South Korea
P095	CDK12 regulates gene expression of DNMT1 & ERBB3 by altering transcription of MIR-152 Jaroslav Klat, Czech Republic
P096	Outcomes of surgical management of endometrial hyperplasia without atypia Shi Hui Lee, Singapore
P097	Management of ovarian teratomas associated with autoimmune encephalitis: A case report and review of the literature Christopher Michael Mayer, USA
P098	Which ultrasound features of the endometrium are predictive of malignancy in post-menopausal bleeding? Michele Montanaro Gauci, Malta
P099	Out-patient endometrial sampling in the investigation of post-menopausal bleeding; how useful is it? Michele Montanaro Gauci, Malta



P100	Endometrial polyps and post-menopausal bleeding Michele Montanaro Gauci, Malta
P101	Clinical algorithm for investigation of post menopausal bleeding Michele Montanaro Gauci, Malta
P102	Incidence of high grade cervical intraepithelial neoplasia in women with normal and abnormal pap smears: A-3 year follow up in Thammasat University Hospital Awassada Punyashthira, Thailand
P103	Radiofrequency ablation (RFA) limits in the emergency haemostasis in bleeding tumours of the uterine cervix Maria-Manuela Ravas, Romania
P104	Case report – Anaplastic large cell lymphoma in women with breast implants Anna Salvador, Brazil
P105	The effect of octerotide in postoperative lymphocele in gynecologic cancer patients Seunghyuk Shim, South Korea

GYNECOLOGY

P106	Endometrial E-cadherin expression in women with reproductive dysfunctions Natalia Aganezova, Russia
P107	Endometrial leukemia inhibitory factor expression in women with reproductive dysfunctions Natalia Aganezova, Russia
P108	Ovarian teratoma causing recurrent syncope and anti-N-methyl-D-aspartate receptor encephalitis Marrwah Ahmadzai, Australia
P109	Preeclampsia: Updates in definitions and guidelines Ayse Akalin, Turkey
P110	The relationship of ovarian reserve and autoimmune thyroid disease in women of reproductive age Elena Andreeva, Russia
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Abstracts



INVITED SPEAKER ABSTRACTS

THE DOMINANT EMBRYO ROLE IN MAMMALIAN REPRODUCTION

Eytan R. Barnea, MD FACOG

Reproduction is an active/interactive act. From spawning by fish until mammalian reproduction. In water sperm penetrates the egg leading to zygote formation and further until adult fish develops. Intradbody fertilization from insects, to bird laying eggs to develop outside the body until hatching. In marsupials intradbody fertilization is followed by migration of the embryo to the pouch until delivery. **In mammals the entire reproduction is intradbody and the conceptus stays there until delivery.** Throughout evolution, the sperm has a primary active role while the egg is silent until fertilization has occurred. Post-fertilization, the situation changes dramatically since the fertilized egg takes the leading role. The cells start dividing and are in a search of a site to implant. In marsupials where implantation period is short and the embryo gets into the pouch, in mammals it is from start from conception until delivery. This clearly indicates that implantation is an aggressive act. As nature taught us, implantation preferentially occurs in the maternal endometrium. However, it can implant elsewhere as well: in the tube, ovary, abdominal cavity and even under the spleen. Pregnancy was reported (extremely rarely) even without a uterus. Therefore, the *zygote in this instance takes the leading role* where the maternal system ie. endometrium becomes a more receptive environment that is conditioned by the presence of the viable embryo. **ART techniques have taught us that conditioning of the maternal environment by hormones is not sufficient, since embryo viability signaling must be present for implantation to occur. What makes the embryo the dominant player in the embryo maternal equation? Embryo-driven signaling** emitted by the viable embryo MUST occur from the earliest stages of development starting from the first step of post-fertilization. This is necessary since the maternal environment needs to adapt to the incoming embryo through a process of priming. This is evidenced by the normal fertilization where the process takes a 5-7 days for implantation take place, while in ART/IVF following embryo transfer a similar time is required. This indicates that embryo signaling must be present in both circumstances. **What it required for maternal recognition of pregnancy is a viable embryo that emits specific signaling (not found outside pregnancy).** Such signal effect must be both local and systemic, integrated to create tolerance, preserved antipathogen activity and maternal preferably endometrial receptivity. **Once embryo recognition occurs, it is followed by maternal adaptation to pregnancy.** Our focus has been to identify embryo-specific compounds that enable initiating and maintaining an effective embryo maternal interaction from recognition to adaptation to successful reproduction. **To support the embryo-driven premise we present that PIF (the Preimplantation Factor) through autotrophic and protective effect aids the embryo development precisely at recognition (2cell onward) to adaptation and, when necessary in reducing adverse environment.** As for the endometrium it helps in priming, implantation and post-implantation and protecting against pregnancy loss. As for immune system it promotes immune homeostasis. **Overall data supports the embryo-driven dominance in maternal responsive hypothesis.**

SCREENING OF THE MAN FOR INFERTILITY

Christopher Barratt, UK

Introduction to session

Approximately 1 in 20 young men today have sperm counts low enough to impair fertility, whereas this may not have been the case historically. The cause(s) of such a decline in male reproductive health is unknown, despite it being a global health issue. Concomitantly, little progress has been made in answering fundamental questions in andrology or in developing new diagnostic tools or alternative management strategies to ICSI in infertile men. We advocate formulation of a detailed roadmap for male reproductive health to facilitate development of a research agenda that highlights the present unmet needs and key unanswered questions, and seeks to deliver effective funding and investment to address them. This vision we term 'a Male Reproductive Health Ecosystem'.

GnRH AGONISTS AND IVF: THE END ... OR NOT?

Joelle Belaisch Allart, Tania Ghomashi, Irene Grefenstette, Negar Khalorpour, Jean marc Mayenga Yacien Belaid et Olivier Kulski.

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In many congresses devoted to Assisted Reproductive Technologies (ART), the use of long GnRH agonist protocols for pituitary desensitization and prevention of premature LH discharge is presented as an antiquated attitude, totally outdated, and only the use of antagonist, modern technique, is advocated. Paradoxically in the same congresses during the presentations that are not devoted to the stimulation of ovulation or in the published articles it is amusing to discover in the paragraph "material and methods" that the agonists are still very used! GnRH analogues are criticized for being a "non-friendly" stimulation because the number of subcutaneous injections would be infinitely higher than with an antagonist forgetting that if one uses the nasal route (whose efficiency equal to the way subcutaneous is demonstrated) the number of days with subcutaneous injections of gonadotropins is exactly the same for agonists and antagonists. We forget too much that in the public centers we are kindly requested by the administration and by the anesthesiologists not to use the operating room at the weekend and to program our oocytes retrievals from Monday to Friday, which is infinitely easier with agonist protocols than 'with antagonists. It is also forgotten that as far as women have normal response to ovarian stimulation, the pregnancy rates remains better, not always significantly, this is true, with the agonist analogues, as Lambalk's meta-analysis has just shown (1): « In a general IVF population, GnRH antagonists are associated with lower ongoing pregnancy rates when compared to long protocol agonists, but also with lower OHSS rates. Within this population, antagonist treatment prevents one case of OHSS in 40 patients but results in one less ongoing pregnancy out of every 28 women treated. Thus, standard use of the long GnRH agonist treatment is perhaps still the approach of choice for prevention of premature luteinization. " It is certain that the antagonists protocols have for them a lower hyperstimulation rate, it is certain that there is any interest in using them for women with polycystic ovaries or women whose ovaries respond too well to gonadotropins, but for other women to date, it has not been demonstrated that antagonistic protocols are preferable either in terms of pregnancy rate or in terms of comfort. In conclusion the long agonist protocol is not dead! *Lambalk C, Banga F, Huirne J, Toftager M, Pinborg A, Homburg R, van der Veen F, va Wely M. GnRH antagonist versus long agonist protocols in IVF: a systematic review and meta-analysis accounting for patient type. Hum Reprod Update 2017;23:560-570.*

RIF-IATROGENIC OR REAL DIAGNOSIS? WHY THE PUBLICATIONS ON ADD-ONS PROCEDURES TESTED ON RIF PATIENTS ARE MISLEADING? A COUNTERCURRENT VIEW
Zion Ben-Rafael
Founder and Chairmen COGI-Congress, IVF unite Laniado, Israel

IVF is a multi-stages procedure with many variables that can each succeed or fail with no real good explanation. The term repeated implantation failure (RIF) is a misnomer, since not every failure is due to implantation or to one reason only. Furthermore, implantation failure is common, so even after 3 failures the chances for success are still very good. Patients need to persevere after failure not to change course by using all kinds of common unproven add-ons procedures. With the professional revelation of the true results of almost all add-ons, comes the negative attention in the lay media and not surprising the first couple suing over “worthless unproven extras” that was registered in England. Add-ons offers to so called “RIF” a costly “better way” to reach better results after few failures. Repeated failure, is also the preferred group to recruit patients to research studies, randomized or not, to prove that a certain add-on is effective. But what is RIF? Does it exist? Treatment protocol, lab work, quality of gametes and embryo, quality of endometrium, women age, and luteal support, ate all constantly changing, hence we can rephrase the famous Greek expression as follows “No women can have the same IVF treatment cycle twice... for it is not the same women and it is not the same IVF cycle”. If RIF does not exist what are the consequences on the studies that are based on them? Different authors have selected different definition. The more commons published definitions, are failure to achieve an ultrasonographical detectable pregnancy in women less than 40 years with at least 3 -4 ET or up to 4-10 good quality embryos, or 4 blastocyst or even after two failed cycles, or after 2 ET. The fact that know society have stepped in to the challenge to define RIF is interesting. The different definitions are usually not explained in the publication. However, some used the presumed maximal implantation rate (IR) per embryo in optimal situation like oocyte donation and natural conception that are claimed to reach 40%. However, extrapolation of large data base like the ESHRE registry encompassing all European countries show substantially lower IR 17.7%. (**H.R. 2017 Cahlaz-Jorge ESHRE registry 2013**), so 3-4 failure should be very common and probably does not require any change in plan in the next cycle, certainly not of untested procedures. Using a mathematical model, Somigliana et al (RBMO, 2017) have shown that assuming 30% implantation rate, the cumulative chances of pregnancy after 3 or 6 cycles was 59% and 79%, respectively, consequently, the false-positive rate of a diagnosis of RIF after 3 or 6 failed cycles is 75% and 51%, respectively attesting to the fact that no change in treatments or addition to the treatment should be offered. That said, the results of the study and control groups after 3-4 ET should not be much different than the preceding cycle. But this is not the case. control groups of so-called RIF, inexplicably tend to present very low results even after 1-2 failures compared to the study group. Undoubtedly, every failure is stressful for the patient and care givers. The majority of failed IVF do not need re-evaluation of their clinical diagnosis and status since they probably had gone through comprehensive evaluation and go through minor changes and accommodation after every cycle. Patients who are exposed to endless lay-press stories and publication fear that they have been misdiagnosed or mistreated, while physician who are in constant competition in this highly privatized sector fear that the failure will result in drop-out, so both side are ready to grasp in subsequent cycles, every new procedure or protocols, that might be offered even if not proven. We will discuss all of these

common add-on's solutions like **PGS, endometrial scratching, freeze only, assisted hatching, and newly launched ERA test**, all of which are used in an effort to increase success, but actually all of them are unproven and some were also suggested to have damaging effect.

PREVENTION OF SPONTANEOUS PRETERM BIRTH: GUIDELINES FOR CLINICAL PRACTICE FROM THE FRENCH COLLEGE OF GYNAECOLOGISTS AND OBSTETRICIANS (CNGOF)

Sentilhes L, Sénat MV, Ancel PY, Azria E, Benoist G, Blanc J, Brabant G, **Bretelle F**, Brun S, Doret M, Ducroux-Schouwey C, Evrard A, Kayem G, Maisonneuve E, Marcellin L, Marret S, Mottet N, Paysant S, Riethmuller D, Rozenberg P, Schmitz T, Torchin H, Langer B.

In France, 60,000 neonates are born preterm every year (7.4%), half of them after the spontaneous onset of labor. Among preventable risk factors of spontaneous prematurity, only cessation of smoking is associated with decreased prematurity (level of evidence [LE]1). It is therefore recommended (Grade A). Routine screening and treatment of vaginal bacteriosis is not recommended in the general population (Grade A). The only population for which vaginal progesterone is recommended is that comprising asymptomatic women with singleton pregnancies, no history of preterm delivery, and a short cervix at 16-24 weeks of gestation (Grade B). A history-indicated cerclage is not recommended for women with only a history of conization (Grade C), uterine malformation (professional consensus), isolated history of preterm delivery (Grade B), or twin pregnancies for primary (Grade B) or secondary (Grade C) prevention of preterm birth. A history-indicated cerclage is recommended for a singleton pregnancy with a history of at least 3 late miscarriages or preterm deliveries (Grade A). Ultrasound cervical length screening is recommended between 16 and 22 weeks for women with a singleton previously delivered before 34 weeks gestation, so that cerclage can be offered if cervical length <25mm before 24 weeks (Grade C). A cervical pessary is not recommended for the prevention of preterm birth in a general population of asymptomatic women with twin pregnancies (Grade A) or in populations of asymptomatic women with a short cervix (professional consensus). Although the implementation of universal screening by transvaginal ultrasound for cervical length at 18-24 weeks of gestation in women with a singleton gestation and no history of preterm birth can be considered by individual practitioners, this screening cannot be universally recommended. In cases of preterm labor, (i) it is not possible to recommend any one of the several methods (ultrasound of the cervical length, vaginal examination, or fetal fibronectin assay) over any other to predict preterm birth (Grade B); (ii) routine antibiotic therapy is not recommended (Grade A); (iii) prolonged hospitalization (Grade B) and bed rest (Grade C) are not recommended. Compared with placebo, tocolytics are not associated with a reduction in neonatal mortality or morbidity (LE2) and maternal severe adverse effects may occur with all tocolytics (LE4). Atosiban and nifedipine (Grade B), unlike beta-agonists (Grade C), can be used for tocolysis in spontaneous preterm labor without preterm premature rupture of membranes. Maintenance tocolysis is not recommended (Grade B). Antenatal corticosteroid administration is recommended for all women at risk of preterm delivery before 34 weeks of gestation (Grade A). After 34 weeks, the evidence is insufficiently consistent to justify recommending systematic antenatal corticosteroid treatment (Grade B), but a course of this treatment might be indicated in clinical situations associated with high risk of severe respiratory distress syndrome, mainly in case of planned cesarean delivery (Grade C). Repeated courses of antenatal



corticosteroids are not recommended (Grade A). Rescue courses are not recommended (Professional consensus). Magnesium sulfate administration is recommended for women at high risk of imminent preterm birth before 32 weeks (Grade A). Cesareans are not recommended for fetuses in vertex presentation (professional consensus). Both planned vaginal and elective cesarean delivery are possible for breech presentations (professional consensus). Delayed cord clamping may be considered if the neonatal or maternal state allows (professional consensus)

THE NUMBERS OF 2-5 AND 6-9-MM OVARIAN FOLLICLES ARE INVERSELY CORRELATED IN BOTH NORMAL WOMEN AND IN POLYCYSTIC OVARY SYNDROME PATIENTS: WHAT IS THE MISSING LINK?

Catteau-Jonard S, Peigné M, Robin G, Dumont A, Pigny P, Dewailly D

What is known already and objective: Previous reports described a direct negative correlation between the number of small antral follicles (2-5 mm) and large antral follicle (6-9 mm) during the early follicular phase (cycle Days 2-5) in normal and PCOS women. Numerous factors, that could be either intrinsic to the ovary or secondary to metabolic influence and/or gonadotropin regulation, might account for this. Is the negative correlation between the numbers of 2-5 and 6-9 mm follicles influenced by ovarian and/or metabolic parameter(s) in young control women and in patients with polycystic ovarian syndrome (PCOS)? **Study design, materials and methods:** Six hundred and thirty-nine patients with PCOS according to Rotterdam Criteria and 157 control women were recruited in this retrospective cross-sectional study from January 2009 to January 2016. Data were obtained from a database of clinical, hormonal and ultrasound (U/S) features recorded consecutively in a single reproductive medicine centre. Univariate correlations between the various parameters were analysed by the Spearman's correlation test. All variables significantly related to the 2-5 and/or 6-9 mm follicle numbers were included in a principal component analysis (PCA) in order to structure the data and to obtain collections of uncorrelated variables, called principal components (PC), which are linear combinations of the original variables **Results:** By univariate analysis, we describe an strongly independent negative correlation between the 2-5 and 6-9 mm follicle numbers, in both populations. In PCOS women, this relationship is conserved and amplified. Many other variables were correlated to the 2-5 and/or 6-9 mm follicle numbers and to each other. By PCA, these relationships were gathered into four independent PCs in each population. In both groups, the 2-5 and 6-9 mm follicle numbers correlated strongly and inversely to a specific PC. Among the other variables tested, only serum oestradiol level correlated weakly to this PC in the control group. Two other uncorrelated PCs gathered relationships between variables linked to the metabolic status and the gonadotropin regulation both in control and PCOS women. Lastly, a fourth PC included relationships which linked to ovarian ageing in controls and to follicle dysregulation in patients with PCOS. **Discussion:** In PCOS women, the negative relationship between the 2-5 and 6-9 mm follicle numbers is conserved and amplified, probably due to 2-5 mm follicular excess, but this does not seem to play a role in the follicular arrest leading to oligo-anovulation. None of the classical hormones implicated in the follicular growth (AMH, FSH, LH, E2, TT) and no parameter of the metabolic status (BMI, WC, Insulin) seem to be involved in this phenomenon. We hypothesize that the oocyte is involved in the equilibrium between both follicle numbers through factor(s) that still need to be identified. Our study confirmed that the negative correlation between numbers of follicles

sized 2-5 and 6-9 mm was stronger in PCOS than in young control women and was not linked to any ovarian or metabolic parameter.

FERTILITY AND MANAGEMENT OF PATIENTS WITH TURNER SYNDROME

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Turner syndrome (TS) is a rare condition associated with a complete or partial loss of one X chromosome. It affects 1/2500 female newborns. Most women with TS (95%) have primary ovarian insufficiency (POI), defined as an amenorrhea or severe oligo menorrhea with an FSH level higher than 25 IU/L and low serum estradiol level, occurring before the age of 40. Therefore, most women with TS desiring a pregnancy will need assisted reproductive technologies (ART) with oocyte donation (OD). Few studies have evaluated the rate of natural pregnancies in TS patients. It ranges from 4 to 7% of TS patients. In our study, including 480 TS patients, 27 women (5.6%) had a total of 52 pregnancies, with 30 full-term deliveries for 18 women. The two predictive factors which correlated with occurrence of natural pregnancy were spontaneous menarche and mosaic karyotype. Pregnancy induced hypertensive disorders (PHDs) occurred in four cases (13.3%), including two cases of mild pre-eclampsia. Neither aortic root dilatation nor aortic dissection were observed. In adolescents or young women with TS still spontaneously menstruating, oocyte cryopreservation should be proposed. However, when this technique is performed because of age or non-oncological medical conditions, more than 10-12 oocytes are necessary to obtain a pregnancy. Therefore, oocyte cryopreservation does not apply to patients with TS, when their ovarian reserve is already too low. In some children before puberty, ovarian tissue has been preserved during childhood, before the occurrence of POI. Pregnancies in patients with TS, obtained after OD are less favorable than those obtained naturally. Indeed, the maternal mortality rate is higher in TS than in the general population. It is mainly related to cardiovascular anomalies and particularly aortic dissection. The overall rate of PHD is around 30 to 50% of pregnancies with TS. When a patient with TS is desiring a pregnancy, a multidisciplinary screening is mandatory before initiating the pregnancy. It includes blood pressure measurements and biological testing evaluating thyroid, liver functions as well as glycaemia. An aortic MRI should be performed within the 2 years before the beginning of the pregnancy. It should evaluate the aortic diameters at the level of the aortic cusps, Valsalva sinuses, supra-aortic ridge and proximal ascending aorta. All diameters should be indexed to the body surface area. Pregnancy should be avoided in case of an ascending indexed aortic diameter > 25 mm/m² alone or between 20 and 25 mm/m² with associated risk factors for dissection. Those factors are the presence of a bicuspid aortic valve, an aortic coarctation and an uncontrolled hypertension. Heart echography should be performed during each trimester and even one to two months after the delivery. In order to make the pregnancy safe, identification of high-risk patients of cardiovascular events should be performed. Hypertension and pre-eclampsia prevention may benefit from beta-blockers and aspirin, respectively. Collaborations between endocrinologists, cardiologists and obstetricians are mandatory during pregnancy and even in the post-partum period in TS patients. Patients should be referred to reference centers of rare diseases. Counseling them about the risks of pregnancy, screening them and spreading the international guidelines to physicians taking care of patients with TS are the three pillars of a safe pregnancy.



TREATMENT OF ADVANCED BREAST CANCER WITH HIGH DOSE ESTROGENS

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Estrogens are known to stimulate the growth of existing estrogen-receptor positive BC, but estrogens are also an effective treatment of BC under special conditions. This contradictory knowledge is known as the “estrogen paradox”. The data summarised in this presentation demonstrate that high-dose estrogens is an effective treatment of advanced breast cancer after the occurrence of resistance to endocrine anti-estrogen treatment. Essential for efficacy is an extended period of estrogen deprivation before the tumour is subjected to estrogen treatment (the “gap hypothesis”). However, high-dose estrogens (HDE) have been abandoned for BC treatment because of cardiovascular side-effects. High dose estetrol (HDE4) may be a new treatment option for patients with advanced breast cancer, since this fetal estrogen has less interference with liver function and is expected to be less harmful for the CV system, whereas data from non-clinical and clinical studies suggest anti-breast tumor effects. A phase IB/IIA, dose-escalation, safety and proof of concept study with high doses of E4 has been performed in Germany in postmenopausal patients with advanced ER+/HER- breast cancer. The study has been completed clinically and the preliminary anti-tumour and quality of life results will be presented, confirming the “Dual Efficacy” concept of high dose E4 in advanced breast cancer.

COUNSELING WOMEN WITH UTEROVAGINAL ANOMALIES

George Creatsas, MD FACS, FRCOG, FACOG, Greece

Uterovaginal anomalies have a prevalence of 1 in 4000 females and are usually found as a clinical feature of the Mayer-Rokitansky-Küster-Hauser syndrome. Primary amenorrhea during adolescence is the prominent symptom. Diagnosis is confirmed by the ultrasonography, the gynecological examination under anesthesia and the laparoscopy. An intravenous pyelography is also suggested to exclude urogenital anomalies, which coincide in 40% of the cases. The management of the patients, along with the proper psychological support and reassurance, includes the creation of a neovagina during adolescence to offer them the opportunity for a normal sexual life. Several, non-surgical and surgical techniques, have been proposed for the creation of a neovagina as the Creatsas vaginoplasty, the Frank method and its modification by Ingram, the McIndoe operation, the William’s vaginoplasty, the Vechietti procedure and its laparoscopic modification and others. Following the appropriate **consultation**, the fertility preservation is the main goal in case that the uterus or part of this is present. Otherwise the surrogate uterus or the uterine transplantation are proposed. Creatsas vaginoplasty is a simple, fast and safe technique that has been applied around the world in 304 cases over the last 28 years, providing excellent results in the vast majority of the patients. The technique (video presentation) last no more than 20 minutes and the mean hospital stay is approximately 4 days. The relative results (case reports) are included in this presentation. The above should be proposed to the patient by expert colleagues mainly in Pediatric and Adolescent Gynecological Centers following a careful explanation, usually in front of the parent(s).

THE MALE REPRODUCTIVE HEALTH INITIATIVE (MRHI)

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Male reproductive health is globally in crisis and worsening in the virtual absence of effective healthcare policies, research funding, societal awareness and education. Evidence of a significant gender gap in healthcare policies and initiatives demonstrates the urgent and critical need for global gender-inclusive healthcare strategies. Men on average live sicker and have a shorter life expectancy as compared to women. Contributing factors include reluctance of men to seek health care advice and treatment and, in general, unhealthy lifestyle factors. Social norms can play a positive role in help-seeking if, for example, a partner or family member suggests that the man have a routine physical exam and he sees other men doing the same. The disparity in life expectancy between male and female has tremendous impact not only on the family and community but also the economy. In the US, many hundreds of billions of dollars are spent by federal, non-federal and employer-supported health plans to support male chronic disease. Effecting change in male attitude from reluctance to active and regular participation in health care seeking would likely result in lower morbidity and mortality and, as a consequence, a very substantial monetary savings to national and global economies. Economics is not the only benefit to come from men more actively seeking health care. For couples experiencing infertility, the male factors in to 40% of the cause of infertility yet very often he lacks a current health and lifestyle profile much less a reproductive health profile. Absence of early diagnosis and treatment for a reproductive health issue or comorbidity can result not only in greater health care cost but, importantly, often places the burden of infertility treatment solely upon the woman. Thus, men’s health extends beyond just the individual; men’s health is very much a women’s health issue and a baby-born health concern as well. Teenage and young adult men typically have limited reproductive health care needs that require medical attention. However, a portent of potentially significant male reproductive health issues is the global decline in sperm counts. In parallel with sperm count decline is an equally unsettling and persisting upward trend in male reproductive system abnormalities, such as cryptorchidism, germ cell tumors and onset of puberty. Associated significant health conditions include diabetes mellitus, metabolic disorders and cardiovascular disease. There is an increasing trend of couples delaying family-building until later in life and advanced paternal age at time of conception is causing significant concern. Danish birth and death registry data show a correlation between increased paternal age (>40) and 1) increased risk of < 5-year-old child mortality, and 2) greater risk to < 15 years old adolescent children of developing acute lymphoblastic leukemia. Moreover, Arslan and colleagues investigated three pre-industrial western populations and found evidence for a transgenerational paternal age effect on both decreased offspring survival and decreased ability of surviving offspring to reproduce. They concluded that paternally driven de novo single nucleotide mutations “reduce offspring fitness across populations and time periods”. The parallel between reduced offspring reproductive fitness and globally declining sperm count may not be coincidental. It could be reflective of a mutually related reproductive epidemic. Evidence is accumulating that paternal lifestyle is driving transgenerational genomic imprinting and epigenetic alterations. The sperm epigenome is uniquely complex and susceptible to environmentally-associated modification in part because there are developmental points of susceptibility, i.e., paternal embryonic development, spermatogenesis and



offspring early embryonic development. Paternal age, smoking, obesity and other life factors, such as pollution, have been implicated as influencing the development and wellness of offspring. Paternal obesity is associated with increased body fat in prepubertal offspring, increased risk of offspring developing autism spectrum disorder and, on a molecular level, influences the methylation pattern of specific loci of imprinting genes in offspring.⁶ Cigarette smoking is considered to be a male fertility risk factor. Smoking has perhaps its greatest negative impact on genome integrity where a majority of publications report some level of smoking related damage to the genome, e.g., increased DNA fragmentation and aneuploidy. Furthermore, paternal preconception smoking significantly increases cancer risk in offspring. In vitro fertilization (IVF) is a multi-billion-dollar global industry responsible for the birth of millions of babies that otherwise might not have been born. Male infertility, which is diagnosed in approximately 40% of couples, is associated with impaired DNA methylation patterns. In more severe forms of male infertility, e.g., obstructive and non-obstructive azoospermia, the technique of intracytoplasmic sperm injection (ICSI) is used to inject into the oocyte a single spermatozoon judged by the ICSI operator as 'alive and well'. Alarming, there is an association between IVF-ICSI and imprinting disorders in offspring, such as Beckwith-Wiedemann and Angelman syndromes. Approximately 25% of males in an infertile couple do not undergo a male reproduction evaluation. Complicating matters is almost 20-30% of men evaluated for (in) fertility will have no definitive diagnosis. A recent case-control study reported an association between aberrant methylation of imprinted genes and idiopathic infertility. However, no follow-up on offspring born has been reported. Therefore, the possibility exists that an unknown percentage of children born to fathers without a fertility diagnosis may have occult paternally transmitted imprinting errors – and these children may in turn transmit the errors to their future offspring. The increasing use of ART-ICSI has digitized the diagnostic role of semen analysis, i.e., sperm presence/absence. Significantly, an ICSI-all approach to IVF removes the couple-shared burden of infertility treatment and places it solely on the woman. As a consequence, she becomes potentially and unnecessarily exposed to greater health and emotional risk. An additional impact of ICSI has, in many ways, lessened the need to investigate sperm function and requirements for fertilization; thus diminishing funding in these basic research areas. This is significant because enhancing that knowledge affords better opportunities for developing male infertility diagnostic tools and therapeutic interventions. These critically essential elements should serve to invigorate funding agencies and policy makers to refocus allocation of funds to stimulate and support significantly greater investigation into male reproductive health.

Summary: Numerous scientific reports provide evidence for a growing global crisis in male reproductive health that is linked to overall health. Further, emerging data demonstrate that the reproductive health of the father impacts the wellness of offspring and grand-offspring. These male-borne health issues, largely unknown by the general population, are increasing at an alarming rate and demand urgent action. Given the link between reproductive and somatic health, a new male preventive health care paradigm is proposed for early teens and young adults, embraced by payors, and that combines an annual physical with a reproductive health exam, including semen analysis, to ensure routine medical examination during a medically vulnerable period due to infrequent health seeking by those age groups. To secure the proposed paradigm shift requires the demand not only from men but society as a whole. Men, their families and society, by in large, are naïve to the significance of the 'canary in the coalmine' scenario presented by declining sperm counts and

the sentinel role that male reproductive health appears to have for overall health. Modern social media formats, educational systems and the medical community are the necessary voices to raise societal awareness. As an example, Andrology Australia (healthymale.au.org) is a government funded program for patients and professionals that provides information and resources to raise awareness about male reproductive health and associated chronic disease. Women make 80% of family health care decisions. Increased responsibility and ownership by the male for his reproductive and overall health can positively affect his and any future child's health. Male-lifetime health care programs must become globally entrenched. If action is not taken, and swiftly, the consequences from the status quo will be that more and more men will die younger, suffer longer with chronic disease and will, unwittingly, pass their potentially altered genomic and epigenomic signatures to future generations. Men's health is global community health!

OVARIAN STIMULATION: MORE IS BETTER

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Ovarian stimulation (OS) has been linked to Assisted Reproductive Technologies (ART) practically from inception. Today, 40 years into the history of ART, OS stands as the single most effective measure ever undertaken for enhancing the yield of ART. Originally however, fears existed that OS might provide excessive responses and cause ovarian hyperstimulation syndrome (OHSS), a dreadful complication – at times fatal – of ART. The hazard that was believed to influence the risk of OHSS was the multiple follicle ovulation induced by OS. The logical defense against the risk of OHSS was therefore to reduce the number of follicles stimulated by mending OS protocols used in ART. This approach led to the concept of mild ovarian stimulation protocols, which held its supporter for a time. Things have changed however, when it was discovered that OHSS is not directly related to the number of follicles stimulated by OS, but rather to an effect of hCG – used for triggering ovulation – on ovarian follicles. The proper defense against OHSS logically became to revert to no-hCG ART protocols. The latter was made possible by triggering ovulation with GnRH-a in antagonist protocols. GnRH-a triggering was recognized to alter the luteal phase so that this approach became intimately associated with freeze all and deferred embryo transfer (ET) protocols. Globally, antagonist protocols with GnRH-a trigger and freeze all plus deferred ET have practically eradicated OHSS. The advent of PGTA led to realize that large fractions of embryos are aneuploid particularly, in the older population. This has put the emphasis on the importance of getting enough embryos for making up for the losses to aneuploidy – discarded embryos or lack of pregnancy – and optimizing the number of embryos obtained. When simply looking at fresh pregnancy rates there have been reports indicating that the optimal number of embryos obtained is of approximately 15. On the contrary, when cumulative outcome is looked at – the proper modern-day metric – ART results continue to increase when >15 embryos are harvested. There is ample evidence today indicating that oocyte quality is not harmed by the amounts of gonadotropin used and/or number of oocytes harvested. In this context therefore, the vanishing risk of OHSS and evidence that cumulative pregnancy rates increase pregnancy chances favor heftier OS protocol for retrieving more oocytes.



WHAT DO WE KNOW ABOUT PREVENTING THREATENED ABORTION AND RECURRENT MISCARRIAGE?

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Background: Progesterone, produced by the corpus luteum in the ovary, helps to prepare the endometrium for implantation of the embryo, and thus is an essential hormone for a successful pregnancy. Evidence from several controlled clinical trials suggested a benefit from progesterone therapy, but with insufficient certainty due to the size of the trials and their methodological weaknesses. This prompted The National Institute for Health and Care Excellence (NICE) in the UK (clinical guideline 154 on "Ectopic Pregnancy and Miscarriage") to call for a definitive trial to answer this question. **Objectives:** The PRISM study was designed to test the hypothesis that in women with vaginal bleeding in the first 12 weeks of pregnancy, vaginal progesterone (400mg pessaries, twice daily), started as soon as possible after the identification of an intrauterine gestation sac and continued to 16 weeks of gestation increases live births ≥ 34 completed weeks of pregnancy by at least 5% compared with placebo. In addition, an economic evaluation was conducted alongside the trial to assess the relative cost-effectiveness of progesterone compared with placebo. **Design:** The PRISM trial was a randomised, double blind, placebo-controlled, multi-centre study. **Setting:** The study was conducted in hospital settings across the United Kingdom (48 sites) between 2015-2018. **Participants:** Participants were women who presented with early pregnancy bleeding that had started within the preceding 4 days and were in the first 12 weeks of pregnancy, with an intrauterine gestation sac visible on ultrasonography. Participants were aged between 16 and 39 years at randomisation and gave informed consent. **Interventions:** Each participant in the PRISM trial received either progesterone or placebo pessaries, at a dose of 400mg, twice daily, administered vaginally from the day of randomisation until 16 completed weeks of gestation. **Main outcome measures:** The primary outcome measure was live birth ≥ 34 completed weeks of gestation. The secondary outcome measures included: ongoing pregnancy at 12 weeks, miscarriage, gestation at delivery, neonatal survival at 28 days of life, congenital anomalies and resource use. **Methods:** Participants were randomised online in a 1:1 ratio via a secure internet facility through an Integrated Trial Management System. Minimisation was implemented for age (<35, ≥ 35 years), Body Mass Index (BMI) (<30, ≥ 30), fetal heart activity (present, absent) gestation at presentation by date of last menstrual bleed (≤ 42 days, > 42 days), and amount of bleeding (PBAC [Pictorial Bleeding Assessment Chart] score ≤ 2 ; ≥ 3). Data were collected at three points of outcome assessment after randomisation, up to 28 days after birth. The primary analysis was by intention to treat (ITT). A within-trial cost-effectiveness analysis was conducted from the NHS and Personal Social Services perspective based on the main clinical outcome of the trial. **Results:** A total of 4153 women, from 48 hospitals in the UK, received either progesterone (2079 women) or placebo (2074 women). The follow-up rate for the primary outcome was 97.2% (4038 of 4153 women). The live birth rate was 75% (1513 of 2025 women) in the progesterone group and 72% (1459 of 2013 women) in the placebo group (relative rate [RR], 1.03; 95% confidence interval [CI], 1.00 to 1.07; $p=0.08$). A significant subgroup effect (interaction test $p=0.007$) was identified for pre-specified subgroups by the number of previous miscarriages: none (74% versus 75%, RR 0.99; 95% CI, 0.95, 1.04; $p=0.72$); one or two previous miscarriages (76% versus 72%, RR 1.05; 95% CI, 1.00, 1.12; $p=0.07$); and three or more previous miscarriages (72% versus 57%, RR 1.28; 95% CI, 1.08, 1.51; $p=0.004$), thus demonstrating a biological

gradient in the effect by the increasing number of previous miscarriages. A significant post-hoc subgroup effect (interaction test $p=0.01$) was found when we grouped all women with any number of previous miscarriage(s) (75% in the progesterone group versus 70% in the placebo group, RR 1.09; 95% CI, 1.03, 1.15; $p=0.003$). There were no significant differences in adverse events. For secondary outcomes, there was evidence that progesterone may increase the rate of ongoing pregnancy at 12 weeks (83% versus 80%; relative risk 1.04, 95%CI: 1.01 to 1.07; $p=0.01$). There was no evidence of a difference in the safety outcomes. **Conclusions:** Progesterone therapy in the first trimester of pregnancy did not result in a significantly higher rate of live births among women with threatened miscarriage overall. However, an increase in live births was observed in the subgroup of women with early pregnancy bleeding and a history of previous miscarriages.

FIBROIDS AND UPA: HOW TO EXPLAIN THE GOOD AND BAD RESPONDERS

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Introduction: Uterine fibroids (also called myomas or leiomyomas) are the most commonly found benign uterine tumors in women of reproductive age, found in 20-25% of women. Patients often present with a variety of symptoms, including pelvic pain, pressure, dysmenorrhoea, anaemia due to heavy bleeding, reduced quality of life and infertility. Treatment often depends on the patient's age and her desire to preserve her fertility. Radical surgery like hysterectomy should be avoided where possible in patients who wish to preserve their fertility, and other surgical and non-surgical approaches, such as myomectomy by laparotomy or laparoscopy, uterine artery embolization under radiological or ultrasound control should be considered where possible (1). Progesterone, however, is known to play a key role in promoting myoma growth, hence modulating the progesterone pathway may prove to be an effective medical approach, which is why the use of selective progesterone receptor modulators (SPRM's) may be a viable option to consider. SPRM's are becoming increasingly available and several studies (PEARL I, PEARL II, PEARL III and PEARL IV) have shown them to be both safe and highly effective when used both short and long term. Recent reports have shown that short-term use of UPA results in bleeding control in approximately 90% of cases, which was achieved within 5-7 days compared to 21 days with GnRH agonists. This decrease in bleeding also results in a very important improvement in hemoglobin levels, which in turn controls anaemia. Estradiol levels also remained at mid-follicular levels, avoiding the menopausal symptoms often seen with GnRH agonists. Furthermore 80% of patients showed a significant reduction ($>25\%$) in fibroid volume (good responders). Hence the other 20% do not respond to the treatment and fibroid volume remains unchanged (bad responders). The reasons why this occurs are discussed from a physiopathological point of view. Tissue micro-arrays and immunohistochemical studies, as well as gene expression analysis and PCR arrays were done in both groups (good and bad responders) in order to understand why (2). Moving forward, we should consider that UPA has a valid place in medical therapy to avoid surgery or as a pre-operative adjunct to surgery together. *References:*

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OVARIAN TISSUE CRYOPRESERVATION AND TRANSPLANTATION: STILL EXPERIMENTAL?

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Available options for fertility preservation in cancer patients include embryo cryopreservation, oocyte cryopreservation and ovarian tissue cryopreservation. However, cryopreservation of ovarian tissue is the only option for prepubertal girls and women who cannot delay the start of chemotherapy (no time for ovarian stimulation). Orthotopic reimplantation of frozen-thawed ovarian tissue has indeed proved successful, yielding over 130 published live births worldwide and pregnancy rates of around 40% (1). Techniques of ovarian tissue transplantation will be presented. Restoration of ovarian function, evidenced by follicular development and estradiol secretion, occurs in 95% of cases. It takes around 3.5 to 5 months for grafts to start functioning post-transplantation. Pregnancies are achieved naturally in 50% of cases. Graft activity usually persists for 2.5 to 4 years but can reach 7 years if the patient is young (<25 years). Prognostic factors (age, previous chemotherapy) are therefore important aspects to discuss. In conclusion, fertility preservation is now a real possibility for patients whose gonadal function is threatened by radiotherapy or chemotherapy.

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THE ARTIFICIAL OVARY

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A concern that must be addressed in case of frozen-thawed ovarian tissue transplantation is the risk of reimplanting malignant cells together with the grafted tissue, especially in patients with leukemia (1), which is the most common hematological cancer in women under 20 years of age. The risk is particularly high in women with acute leukemia and cannot be completely eliminated, even if the biopsy destined for cryopreservation is taken from patients in complete remission (2). One alternative to avoid reimplanting malignant cells is to obtain mature oocytes by means of the so-called transplantable artificial ovary. Isolation of primordial follicles from cryopreserved ovarian tissue and their transfer onto a scaffold to create this artificial organ will serve to eliminate the risk of transmission of malignant cells (3,4). Recent developments in the follicle isolation technique with GMP grade enzymes and involving washing the follicles three times (5), have proved successful, making this option applicable to leukemic patients (6). Growing antral follicles were observed after autografting primordial follicles inside a fibrin scaffold in a mouse model (7) and after xenografting human primordial follicles in mice with severe combined immunodeficiency (8). The different steps necessary to create an artificial ovary will be revised (9).

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CANNABIS TREATMENT DURING PREGNANCY AND LACTATION

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For many years and especially since the Thalidomid disaster, physicians started to be very cautious about the usage of medications during pregnancy. The last decade usage of cannabis for many indications, without good proof of safety, presented a real dilemma to the physicians and to the patients. The fear of malpractice suits combined with lack of EBM, created confusion and reluctance to be involved with the subject. Sporadic initiatives to do research were prevented by Helsinki Committee because of the same reasons. During the last three years, four women were treated by cannabis in Israel. In all cases they insisted to be treated and the treatment was approved by appeal's committee in the Ministry of Health in coordination with their gynecologist. In all cases the reason for the treatment was a Fibromyalgia treated by cannabis after a failure of all other conventional treatments. All pregnancies ended with healthy babies, but it remains to see if there will be no impairment of development in the next years. Making such decisions with no base of research, is very problematic to every physician. Trying to decide, we are looking for evidence of safety but there is none, but there is a very interesting experience we should examine. Fifty years ago, in Woodstock Festival, hundreds, thousands of young people spend a whole week listening to music, doing sex and smoking cannabis. It was not a scientific experiment, but it is interesting to notice that as far as we know, no increase of congenital malformations was observed later. Once again, it was not a scientific study but it worth to think about it. Discussing the problem, we need to balance the potential danger of cannabis comparing to other treatments.

SCREENING OF THE MAN FOR INFERTILITY: WHY ITS NECESSARY (CANARY IN THE COAL MINE)

Michael L. Eisenberg, MD

Infertility impacts approximately 1 in 7 couples in the U.S. Nearly 50% of infertile couples will have a male factor to explain reproductive difficulties. A male's reproductive and somatic health are intertwined. Generally infertile men are less healthy than their fertile counterparts at baseline. Studies have reported higher BMI and higher Charlson Comorbidity Index compared with a fertile man. Furthermore, hypertension, cancer, endocrine disease, and heart disease have been linked to impaired semen quality. Indeed, several groups have reported serious medical conditions diagnosed at the time of a male infertility evaluation. Furthermore, aberrations in reproductive fitness may be a harbinger of



medical diseases in men. European investigators have linked impaired semen quality to a nearly higher risk of testis cancer in men in the years following an infertility evaluation, a finding later confirmed in US studies. In addition to cancer, longitudinal studies suggest that men diagnosed with infertility had a higher incidence of diabetes, hyperlipidemia, and heart disease. Moreover, earlier and higher rates of inpatient hospitalization have been reported in men with lower semen quality in a dose dependent fashion. In addition, several groups have also demonstrated higher overall mortality rates among infertile men with impaired semen parameters in both Europe and the US. Select comorbid conditions (e.g. obesity, smoking) are known to impact male fertility and health; however, the etiology of the association remains unknown. Data suggests genetic, in utero, and hormonal factors may contribute. The findings suggest an opportunity to positively affect men's health. If infertility is confirmed as an early marker of chronic disease, screening practices could be adjusted, as they are for patients with a family history of malignancy

THE PARTOGRAM – SHOULD WE USE IT?

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In 1955 Emanuel Friedman defined labor in a quantitative manner, thereby providing standardization and facilitating precise mathematical derivation of normal and abnormal labor progression (1). When evaluating the progression of labor according to the Friedman curves, based on the analysis of labor in fifty primigravid parturients, the active phase of the first stage of labor begins at 4 cm (2). More than fifty years later, Zhang et al systematically analyzed contemporary labor data to examine the labor patterns in a large, modern obstetric population in the United States. Their rationale for the need to redefine labor patterns emerged from the changes in the laboring population and current obstetrical practices. On the one hand, increasing maternal age and fetal weights make labor more challenging today. On the other hand, higher rates of labor induction, oxytocin use and epidural anesthesia, intervene with natural labor, potentially altering its rate of progression. In an attempt to examine if Friedman's curves accurately define labor today, they reviewed labor and delivery information from 12 clinical centers within 19 hospitals in the USA from 2002 to 2008 (3). Their analysis of 62,415 women demonstrated that for both nulliparous and multiparous women at four cm, it could take more than six hours to progress to five cm, whereas at five cm, it may take more than three hours to progress to six cm. Only after six cm did multiparous women show faster labor progression than nulliparous women. Additionally, at six cm or more, almost all women who had had a vaginal delivery with normal neonatal outcomes had a 95th percentile of first stage of labor of less than two hours. This was particularly true for multiparous women. This data suggests that the active phase of the first stage of labor may only begin at six cm, and not at four, as proposed by Friedman, since only 50% of the women entered it by four cm (3). For this reason, no appreciable change in dilation for four hours may be normal in early labor but is probably abnormal after six cm. Therefore, the authors concluded that the term arrest of labor probably should not be used in laboring women who are only six cm dilated, or less. The results of this impactful study were partly supported by an older study with somewhat different results than those initially presented by Friedman. Peisner and Rosen in 1986 examined the labors of 1060 nulliparous and 639 multiparous women. In both of these populations less than 50% of labors became active by the time the cervix dilated to four cm. By five cm, 74% of labors were active. However, when protracted and arrested labors were eliminated, 60% of the patients had reached the latent-active transition by four cm and 89% did so

by five cm. The authors concluded that once a parturient has reached five cm of dilation, she should be in the active phase of labor (2). When evaluating the study of Zhang et al (3), it is important to acknowledge several potential selection biases in the study design. Firstly, women who had a cesarean delivery in the first stage of labor were excluded from the analysis. Some of these cases may have been due to dysfunctional labor and labor dystocia. Their exclusion may have, therefore, resulted in an increase in dilation rate in residual study cases (4). Secondly, women whose cervix was more than cm dilated at admission were also excluded. If these cases were reflective of more rapid labors, their exclusion may contribute to a slower overall appearance of cervical dilatation (4,5). Lastly, nearly half of the parturients included in study received oxytocin for labor augmentation, potentially altering the natural course and rate of labor progression (3). Due to these limitations some have questioned the validity of the newly proposed labor curves and there is controversy surrounding this new six cm definition of active labor (4–8). Over the last several decades cesarean deliveries have been increasing in rate worldwide. In an effort to halt the increasing rate of cesarean delivery, the American College of Obstetricians and Gynecologists (ACOG) and The Society for Maternal-Fetal Medicine responded to the new labor curves proposed with workshop recommendations and an Obstetric Care Consensus statement on safe prevention of the primary CD in 2014 (9). The hope was that by avoiding the possible erroneous diagnosis of arrest of dilation at six cm and thereby preventing cesarean deliveries performed for this indication, the rates of primary cesareans may decrease. Several recent studies have evaluated the implementation of the new labor guidelines. Rosenbloom et al, in their retrospective study, assessed the incidence of cesarean sections performed in a single academic medical center in the United States before and after the change in guidelines (10). Their analysis of 7,845 women over a four-year time period showed that there were no significant decreases in the rates of cesarean deliveries performed for arrest of dilation or in the rates of overall cesarean delivery rates. Additionally, there were no significant changes in the rates of cesarean deliveries for arrest of dilation at more than six cm or less than six cm. The results of this study differ substantially from those of Thuillier et al. In their retrospective cohort study at a university referral hospital in France, the rates of primary cesarean deliveries in laboring women with a singleton term gestation were compared over two 1-year time periods - from March 2013 to February 2014 (preguideline) and from June 2014 to May 2015 (postguideline). The analysis of 3,283 and 3,068 women in the before and after periods respectively, demonstrated a decrease in the global cesarean delivery rate from 9.4% in the preguideline to 6.9% in the postguideline period (odds ratio, 0.71; 95% confidence interval, 0.59-0.85; $P < .01$). The cesarean delivery rate for arrest of first-stage labor decreased by 50%, from 1.8% to 0.9% (odds ratio, 0.51; 95% confidence interval, 0.31-0.81; $P < .01$) but was significant only among nulliparous women (11). An additional recent study evaluated this very question of the effect of guideline change on rates of term singleton primary cesarean deliveries in three community hospitals in the USA over two six months' time periods. Their results are in agreement with Thuillier et al, as they too demonstrated reduction in the rate of primary cesarean deliveries from 27.9% to 19.7% (odds ratio, 0.63, 95% confidence interval 0.46-0.88) in 434 women identified in the preguideline period and 401 women in the postguideline period (12). Due to the recent change in the definition of active labor and the slow and gradual process of adoption of new guidelines in daily medical practice, there is scarcity of information available regarding the effect of this change on maternal and neonatal outcomes. A secondary analysis of



data from the Maternal Fetal-Medicine Units Network Cesarean Registry in the USA analyzed composite maternal morbidity in women who had had a cesarean delivery for arrest of dilation at a maximal cervical dilation of four to five cm versus those who reached six cm and above. A total of 5,681 nulliparous women with term, singleton, vertex gestations who underwent a primary cesarean delivery for arrest of dilation were assessed, showing no significant difference in rates of composite maternal adverse outcomes between both groups(13). A similar before–after retrospective cohort study at a single academic center that adopted guidelines from the Consensus for the Prevention of the Primary Cesarean Delivery, examined neonatal and maternal outcomes. They showed a significant decrease in overall rates of cesarean deliveries and those performed for arrest of dilation at less than six cm, along with a decrease in rates of postpartum hemorrhage and composite maternal morbidity. Neonatal outcomes were unchanged between the two time periods (14). On the other hand, in a recent study that found no decrease in the primary cesarean delivery rates when comparing the periods of before and after guideline change, there had been an increase in maternal and neonatal morbidity (10). The rate of progress of labor has also changed over the years. A good example is the Zang paper outlined above. There is also data that there is a correlation between maternal age and the duration of labor. Similarly, higher BMI also slows the progress of labor. As our species changes with increased rates of advanced maternal age and frequent obesity old data on the progress of labor does not seem to be valid. In summary, there is no consensus regarding the definition of the beginning of the active phase of the first stage of labor and the rate of cervical progress of dilatation. The recent change in ACOG guidelines and adoption of the six cm threshold for active labor have yet to show a uniform decrease in overall rates of primary cesarean deliveries and those done due to arrest of cervical dilation. A randomized controlled trial is needed to fully ascertain the effect of the new guidelines on cesarean delivery rates and associated maternal and neonatal morbidities. Regardless of the results of such future studies, it is our belief that judging whether a woman has protracted labor or arrest of dilation should not be based on a mean threshold of cervical dilation, but on the upper limit of norm, i.e above 2 standard deviations, of what is considered “normal labor”.

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WHAT DO WE KNOW ABOUT UTERINE RUPTURE?
Dan Farine, MD, Canada

There is abundant data on uterine rupture that is the basis for counselling and current guidelines. However, the basis for data is quite shaky. There are 24 large retrospective studies on uterine rupture. In 19 uterine rupture and dehiscence are lumped together making analysis of one vs. the other impossible. In 5 articles the database used distinguished between the two. We looked at our own data in which the database distinguishes between the two diagnoses. We then reviewed all these charts individually and were surprised to find that there was no accurate diagnosis in about half the cases

Most common obstetrical outcomes miscoded as Uterine Dehiscence or Uterine Rupture during the study period (1988-2017)

Obstetrical Outcomes	Coded as Dehiscence (n)	Coded as Uterine Rupture (n)	Total (n)
Uterine extensions during repeat cesarian sections	17	0	17
Other tears of birth canal	24	0	24
No evidence of Dehiscence/Rupture	29	1	30
Confirmed Uterine Dehiscence	69	4	73
Confirmed Uterine Rupture	6	24	30
Total	145	29	174

Table 5 – Uterine Dehiscence and Rupture and modes of Delivery identified during t

Is there anything magical about the 30 rule?

- 30 minutes rule was developed by consensus
- most fetuses with abnormal tracings are not acidotic and can wait for *longer* than 30 minutes
- if a fetus *is* becoming compromised, 30 minutes may be a long time

What are the recommendations re decision to delivery interval for urgent CS?

- UK: 30 minutes (RCOG, AAGB, RCM 1998)
- US: 30 minutes (ACOG, 2002)
- Canada: SOGC Guidelines (SOGC 2000)
- Germany: 20 minutes from decision to delivery

SOGC L&D Attendance Guidelines 2000:

Timing of emergency Caesarean section:

“It is the hospital’s responsibility to ensure adequate operating room time, as well as nursing, anaesthetic, obstetrical, and newborn resuscitation personnel to deal effectively with obstetrical emergencies. Problems may occur suddenly and unexpectedly even in patients thought to be at low risk. Hospitals must always be ready to respond to such emergencies.”

SOGC VBAC Guidelines 2005:

- For a safe labour after Caesarean section, the woman should deliver in a hospital where a timely Caesarean section is available. The woman and her health care provider must be aware of the hospital resources and the availability of obstetric, anesthetic, pediatric, and operating-room staff (II-2A)
- Each hospital should have a written policy in place regarding the notification and (or) consultation for the physicians responsible for a possible timely Caesarean (III-B)



AUTHOR & setting	YEAR	Number of "urgent" CS	DELIVERED IN UNDER 30 MINUTES
MacKenzie (Teaching unit)	2002	100	< 40%
Tuffnell (District hospital)	2001	721 (Cyclic audit)	66%
Helmy (District hospital)	2002	73	< 40%
Thomas (England & Wales)	2004	17, 780	Emergency: 46% (n = 2137) Urgent: 16% (n = 1422) Non-urgent 9% (n = 330)
Holcroft (Teaching unit)	2005	117	Average 32 mins
Bloom (NIH, United States)	2006	2808	65% <u>started</u> before 30 minutes

CAN WE RELIABLY PREDICT POI USING AMH

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Premature ovarian sufficiency (POI) is a devastating clinical condition, with many short and long term health implications. Historically diagnosis is made on the basis of cycle history (i.e. the presence of amenorrhea for 3, 6 or 12 months) complemented with hormone assays (i.e. serum FSH above 25 or 40 IU/L in one or 2 occasions). Estrogens concentrations are low, as well as the number of ovarian follicles assessed by ultrasound but these is not part of the diagnostic criteria. In more recent years the assessment of anti-Mullerian hormone (AMH) concentrations in blood has been demonstrated to be a reliable marker for the number of early antral developing follicles. The number of growing follicles is in turn related to the pool of resting primordial follicles and could therefore be used as marker for ovarian reserve. This has proven to be useful under various clinical conditions, and the question at hand is can AMH be used as an early marker to diagnose POI. Why would an early diagnosis of imminent POI be relevant? As clinician I have seen quite a few young women with a positive family history of POI and they want to know whether they are indeed at risk themselves. In additions, women with signs of estrogen deficiency may want to know why this is and what implications are for future health. This especially holds true for young cancer survivors where sometimes potentially gonadotoxic chemotherapy or radiation is applied. Early POI diagnosis may have implications regarding fertility potential and the need to cryopreserve own oocytes or use donated oocytes. Hormone replacement therapy may be considered in the light of osteoporosis prevention and long-term cardiometabolic health risks. Remarkably few studies have appeared over the years to assess whether indeed AMH is capable of predicting POI. Ideally, you would need a prospective follow-up design to answer this question, and this kind of studies have only been performed in cancer patients. Under those circumstances, it could indeed be demonstrated

RCTS MAY NOT BE THE ANSWERE TO ALL OUTSTANDING QUESTIONS IN INFERTILITY

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Beyond any doubt evidence based medicine (EBM) and the related emphasize on properly designed and sufficiently powered randomized controlled trials (RCTs) has revolutionized the way medicine is practiced today. Like in other areas in medicine, also in infertility many newly designed strategies have failed to pass the scrutiny of well designed studies and have therefore been abandoned. In infertility, a heated and fears debate has recently taken place regarding the use and misuse of IVF 'add on' interventions, and doctors working in the private sector have been accused of exploiting the needs of desperate patients because the proper proof for beneficial effects is often lacking. Overall, performing RCTs is still considered the gold standard for evaluating novel interventions. However, RCTs by definition represent the science of the average of (more or less heterogeneous) groups, and does not take into account potential individual response differences. Often RCTs show no difference between both interventions in both groups, but this does not rule out the possibility that interventions might be useful in subgroups. In addition, performing useful RCTs are not without difficulties: a) It is shown that in order to demonstrate a clinically useful increase in pregnancy rates, large sample size studies (involving > 1000 individuals) are needed. b) By definition it is difficult, costly and time consuming to perform such studies. Therefore average duration between design and the actual execution and publication of such a study is often at least 5 years. c) Once the results of such studies are finally published, conclusions drawn may be questioned because used technologies are considered to be outdated. In the current era of personalized medicine, other validated and scientifically sound research strategies - like prospective cohort follow studies and subsequent multi-variate prediction analyses - where a heterogeneous cohort of patients undergo a single intervention, may be consider as a valid alternative strategy. Under those circumstances it is not the intervention but rather the patient which is considered the primary variable of interest. Such an initiative would radically differ from current evidence-based research orthodoxy. The opportunities for generating large cohorts offered by increasing consolidation in the IVF market are enhanced by the maturing of techniques of big data analysis.

SHOULD WE BE ADVISING OUR PATIENTS TO TAKE A HIKE? PHYSICAL ACTIVITY IN PREGNANCY: 2019 UPDATE

Milena Forte, Canada

The 2019 Canadian Physical Activity Guidelines in Pregnancy guidelines represent a foundational shift in how we view exercise in the prenatal period. These guidelines strengthen the recommendation that most women can safely exercise throughout pregnancy, and also position prenatal physical activity as a therapy that can reduce pregnancy complications and optimize health across the lifespan of two generations. Adverse pregnancy outcomes such as gestational diabetes (GDM) and hypertensive disorders of pregnancy (HDP) have increased over past decades. These outcomes are associated with an increased risk of developing cardiovascular disease (CVD). Moderate intensity prenatal exercise (600 MET-min/week which = 140 minutes of brisk



walking or resistance exercise) results in a 25% reduction in the odds of developing GDM or HDP. Additional benefits of prenatal exercise include: reduced rates of antenatal depression and anxiety, decreased caesarian section and instrumental deliveries, decreased urinary incontinence, decreased lumbopelvic pain, and decreased total gestational weight gain. Moderate intensity exercise in pregnancy is *not* associated with increased rates of miscarriage, preterm birth, stillbirth, neonatal death, preterm/pre-labour rupture of membranes, neonatal hypoglycemia, birth defects, or low birth weight. Currently, a minority of women meet the recommendation for 150 min/week of moderate activity throughout pregnancy. As benefits were seen with less frequent and intense exercise, pregnant women should be encouraged to be active at any level. While more physical activity is associated with greater health benefits, no safe upper limit was established based on existing research. Women who wish to exercise at high intensity or train for competition should seek the advice of their obstetrical care provider. *Absolute contraindications* to moderate intensity exercise include ruptured membranes, premature labour, unexplained persistent vaginal bleeding, pre-eclampsia, placenta previa after 28 weeks, incompetent cervix, intrauterine growth restriction, higher order multiples (e.g. triplets) uncontrolled type 1 diabetes, uncontrolled hypertension, uncontrolled thyroid disease, and other serious cardiovascular and respiratory diseases. There are *general safety precautions* to consider when counselling on physical activity in pregnancy. Scuba diving is not safe in pregnancy as the fetus is not protected from decompression sickness and gas embolism. It is recommended women avoid sporting activities with physical contact or risk of falling (e.g. downhill skiing) which may increase risk of fetal trauma. The Physical Activity Readiness Medical Examination for Pregnancy (PARmed-X for Pregnancy) is a tool developed by the Canadian Society for Exercise Physiology (CSEP) and endorsed by Society of Obstetricians and Gynecologists of Canada (SOGC) and Health Canada for healthcare providers, exercise professionals, and pregnant women (<http://www.csep.ca/cmfiles/publications/parq/parmed-xpreg.pdf>). It can be used as a guide for women when starting exercise in pregnancy and by health care providers who counsel women. Pregnancy is a unique time in a woman's life, and one where a healthy lifestyle has the potential to impact both mother and baby. In summary, we need to start to view exercise in pregnancy as a therapy that can reduce harm and improve the health of two generations.

The full 2019 Canadian Guideline for Physical Activity throughout Pregnancy are available at www.csep.ca/guidelines.

TARGETING HRT: FROM INDICATION TO PERSONALIZATION

Marco Gambacciani

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During the past decade the risks and benefits balance of hormone replacement therapy (HRT) in menopause has been thoroughly reassessed especially when considering the cardiovascular risk. The term HRT is usually referred to all estrogen-based therapies, orally, transdermal or vaginally administered, as well as the estrogen-progestin combination therapies, both in sequential or continuous scheme, estrogen-progestin-androgenic compounds (Tibolone), estrogen combinations with SERMs (called Tissue Selective Estrogen Complex, TSEC). Menopause is not a disease and does not require treatment, but some women may be affected by hormonal decline and therefore need a replacement. HRT should be considered as part of a fully integrated clinical-therapeutic assessment that must also include advice for a

correct lifestyle, diet, physical exercise, to enable the woman to regain or maintain good health and well-being. HRT should not be recommended in the absence of a clear indication such as the presence of vasomotor symptoms or vaginal dryness. HRT remains the most effective therapy for the treatment of climacteric symptoms, from vasomotor symptoms to menopausal genitourinary syndrome. Other climacteric symptoms such as muscle-joint pain, changes in mood, changes in the sleep-wake rhythm, changes in sexual behavior and quality of life (QoL) may improve with HRT. The relationship between the benefits and risks of HRT is not absolute and univocal but varies according to the selection of women, the starting time, the dose and type of HRT selected. HRT includes a wide variety of compounds: estrogens, progestins, estrogen-progestin combinations, Tibolone, TSEC. All these compounds, with different dosages and routes of administration, show benefits, but above all very different potential risks. Consequently, an absolute "class effect" cannot be quantified for HRT. Assuming a class effect is inappropriate and will certainly generate confusion between clinicians and the population. In general, there is no ideal dosage or product suitable for all women at any age. Each combination can have unique characteristics that can be used appropriately. The numerous products available allow a dynamic customization of the therapy, modifying the dosage, the choice of progestin and the route of administration based on the characteristics, objectives and preferences of the woman to guarantee the best efficacy with maximum safety. HRT can be performed using different dosages, according to the woman's clinical conditions. By standard doses we mean the administration of 2 mg 17 β estradiol orally or equivalent doses of other estrogenic preparations. Other dosages are currently in use and are reported as low or ultra-low dose, to be adjusted according to the clinical needs and age of the woman. In general, it is good practice to reduce the hormonal dosage with the woman's age. Dosages lower than those used in past years show good efficacy on clinical symptoms and maintain beneficial preventive effects, with an undoubtedly better risk profile. The fundamental principle is to treat symptomatic women. Systemic HRT is essentially indicated for symptomatic women under the age of 60, or in any case within 10 years of menopause, after excluding the presence of contraindications. The selection of symptomatic patients in the immediate postmenopausal, or perimenopausal, period is essential to maintain the effect of endogenous estrogens, which only early on can be guaranteed. In fact, the presence of menopausal symptoms is related to a greater endocrine-metabolic risk that conditions a more focused and rational clinical use profile. The majority of postmenopausal women can use HRT. The risk / benefit ratio is certainly more favorable in symptomatic women who start HRT under the age of 60 and in any case within 10 years of menopause, in which the certain benefits in terms of symptoms and quality of life far exceed the possible hypothetical risks. Observational clinical studies show that transdermal therapy does not cause any increase in venous thromboembolism or stroke in the general population. In subjects at higher risk (e.g. with genetic thrombophilia). Low dose vaginal estrogen administration for the GSM treatment is safe and free of any potential severe adverse events. HRT must be evaluated with the specialist, case by case. Therefore, HRT must be personalized according to the individual characteristics of the woman, her personal and family history, the results of suitable clinical and laboratory analyses, the preferences and expectations, as well as the predominant symptoms. The gynecologist should assess the most appropriate type of HRT (dosage, drug composition, pattern, route of administration and duration of use) to achieve the treatment goals, with a periodic reassessment of changes in women's health, benefits and risks over time.



LASER THERAPY FOR THE FUNCTIONAL VAGINAL RESTORATION: THE RESULTS OF LONG-TERM EFFICACY OF VAGINAL ERBIUM LASER IN PROSPECTIVE STUDIES ON GENITOURINARY SYNDROME OF MENOPAUSE

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Laser therapy has a therapeutic role for different medical conditions and most recently has gained interest as a non-hormonal treatment for genitourinary syndrome of menopause (GSM) and non-invasive option for stress urinary incontinence (SUI). Several therapeutic options are available to alleviate GSM symptoms, including hormonal and non-hormonal products. Both microablative fractional CO₂ laser and the non-ablative vaginal Er: YAG laser (VEL) induce morphological changes of vaginal tissues, and from available, non-randomized clinical trials data alleviate the symptoms of dryness and dyspareunia. In a multicentric, prospective study performed on an outpatient basis using an erbium laser (XS Fotona Smooth™, Fotona, Ljubljana, Slovenia) postmenopausal women (PMW, n= 876, mean age 54.3±3.9 years) were treated with 3 Renovalase applications every 30 days. Symptoms were assessed before and after 4, 12 and 24 weeks from the last VEL treatment, using The Female Sexual Function Index (FSFI) and the Female Sexual Distress Scale-Revised (FSDS-R). In addition, in 205 PMW symptoms were assessed up to 24 months, using the visual analog scale (VAS) and the vaginal health index score (VHIS). Stress Urinary Incontinence (SUI) was evaluated with the International Consultation on Incontinence Questionnaire-Urinary Incontinence Short Form (ICIQ-UI SF). A standardized 1-hour pad test was conducted by having the patient perform a set of activities with 300 ml saline in the bladder. A positive 1-hour Pad test was defined as >1g leakage. We considered mild incontinence if the Pad test resulted < 10g; moderate incontinence >10< 20g; severe incontinence >20g. Objective improvement after treatment was defined by a > 50% decrease in the follow-up. Patients suffering from SUI were treated with the Incontialese procedure. The procedures were performed without anesthesia or drug use before or after the intervention. Results: The FSFI total score from basal values of 15.5 ± 4.2 reached 28.5 ± 2.5 and after the second VEL treatment, (p<0.001). We observed a significant (p < 0.001) improvement in each specific domain FSFI scores at the end of treatment compared to baseline. The FSDS-R from basal values of 29.5 ± 1.5 dropped to 10.5± 1.5 after the 2 first and the second VEL treatment (p<0.001). The results were maintained up to the 24th week of observation. In the long-term follow-up VEL treatment significantly improved VHIS, as well as vaginal dryness and dyspareunia scores (p<0.01) up to the 12 months after the last VEL treatment, while the values were similar to the baseline after 18 and 24 months. In 114 PMW suffering from mild-moderate SUI, VEL treatment significantly (p<0.01) improved ICIQ-SF score, up to the 12 month of observation. Overall significant improvements in the pad weights were noted in the follow-up visits (p<0.0001). In particular, women with mild SUI (n=68) showed 100% improvement in all patients at 6 months and 60% (n=40) after 12 months. Among patients who had moderate SUI (n=34), 80% of the patient (n=27) exhibited improvement at 6 months and 38% (n=17) at 12 months. Finally, women with severe SUI (n=12), 58.3% of patients (n=7) exhibited improvement at 6 months and 16.7% of the patients (n=2) at 12 months. No serious adverse events were recorded during the study. VEL was well tolerated with less than 3% of patients discontinuing treatment due to adverse events. During our observation period, 174 (84.9 %)

PMW asked to repeat VEL procedure for GSM, and 96 patients (69.6%) for the treatment of SUI. Conclusion: Albeit not randomized, this large, multicentric, prospective study confirms that VEL is effective, safe and well accepted for the treatment of GSM and SUI, leading to a significant and long lasting decrease the distress associated with impaired sexual function with an improvement of satisfaction with sexual life in PMW suffering from GSM. VEL was repeatedly reported to improve GSM, SUI as well as vaginal prolapse. Being a non-ablative procedure VEL is suitable for multiple treatments repeated over time. Although large randomized trials have not been reported to date, existing evidences suggest that VEL can be offered as a safe and efficacious alternative to HRT for GSM. As for SUI is concerned a randomized sham-controlled trial confirms that VEL can effectively suggested as well as a first step treatment of mild-moderate SUI before surgical procedures. Further properly sized, randomized studies are needed to evaluate the laser treatments in comparison with other therapies, as well as to assess the duration of the therapeutic effects and the safety of repeated applications. Active research is evaluating both an automated robotic probe for VEL treatments, as well as an Erbium-Yag intraurethral probe for the treatment of severe and Type III SUI.

RCT OF PGT FOR ANEUPLOIDY BY MICROARRAY OF POLAR BODY IN ADVANCE MATERNAL AGE. ANY ADVANTAGE? THE ESTEEM STUDY

L. Gianaroli, MD, FRCOG

Chromosome abnormalities in gametes and embryos are one of the main causes of prolonged time to pregnancy, implantation failure and miscarriage in assisted reproduction treatments. Reproductive medicine specialists have been investigating techniques to detect them before embryo transfer with the aim to improve the outcome of assisted reproduction cycles. In 2009, the European Society for Human Reproduction and Embryology (ESHRE), started a pilot study in two centers to investigate whether zygote chromosomal status could be accurately predicted by array comparative genomic hybridization (aCGH) analysis of both polar bodies (PBs). This technique still needed validation for Preimplantation Genetic Testing for Aneuploidy (PGT-A) back then. Based on the high degree of concordance (94%) between the chromosome analysis of PBs and those from the resulting fertilized oocytes, the ESHRE Study into the Evaluation of oocyte Euploidy by Microarray analysis (ESTEEM) was launched. The first aim of the study was to evaluate whether preimplantation genetic testing for aneuploidy by comprehensive chromosome screening (CCS) of the first and second PB to select embryos for transfer increased the likelihood of a live birth within 1 year in advanced maternal age (AMA) women (36–40 years) planning an ICSI cycle, compared to ICSI without chromosome analysis. ESTEEM was a multinational, multicentre, pragmatic, randomized clinical trial with intention-to-treat analysis. It involved 9 European ART Centers. Of 396 women enrolled between June 2012 and December 2016, 205 were allocated to CCS of the first and second PB (study group) as part of their ICSI treatment cycle, and 191 were allocated to ICSI treatment without chromosome testing (control group). Block randomization was performed stratified for centre and age group. Participants and clinicians were blinded at the time of enrolment until the day after intervention. Results obtained show that the cumulative live birth rate at one year of follow-up is not substantially increased by PGT-A on PBs of oocytes harvested after ovarian stimulation for ICSI in AMA patients. However, the clinical outcome demonstrated that although in both study arms 24% of patients had one live birth, this was consequent to significantly fewer ETs



(0.86 per patient in the study group vs. 1.3 per patient in the control group) and miscarriages (7% in the study group vs. 14% in the controls, $P=0.02$). In addition, the live birth rate for euploid embryos (33%) was significantly higher than for embryos without a diagnosis (17%) or no PGT-A (18%) ($P=0.005$). In conclusion, the achievement of similar birth rates with fewer transfers and less miscarriages points to a clinical benefit of PGT-A, suggesting that this form of embryo selection may be considered, at least for AMA patients, to minimize the number of interventions while producing comparable outcomes.

AN EVIDENCE-BASED SCORING SYSTEM FOR PRIORITIZING MOSAIC ANEUPLOID EMBRYOS FOLLOWING PREIMPLANTATION GENETIC SCREENING Francesca Grati, Italy

The aim of this study was to devise an evidence-based scoring system for prioritizing mosaic aneuploid embryos for transfer. Through a retrospective analysis of all sequential cytogenetic and molecular results on chorionic villi samples ($n = 72,472$) and products of conception ($n = 3806$) analysed at a single centre, the likelihood of 4 adverse outcomes associated with mosaic aneuploid trophoblast were evaluated. A composite score was obtained for each individual mosaic aneuploidy after assignment of an individual risk score based on the incidence/likelihood of each adverse outcome. The higher the composite score, the lower the priority for transfer. Due to the paucity of prospective studies on the actual transfer of mosaic aneuploid embryos, we suggest using this evidence-based scoring system to provide a useful tool for clinicians, embryologists and patients.

SHOULD ANDROGENS BE ROUTINELY OFFERED TO OPTIMIZE QUALITY OF LIFE IN MENOPAUSE? DEBATE - PRO

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YES, androgens – testosterone and/or dehydroepiandrosterone, DHEA – should be routinely offered to women after the menopause. Exceptions include *current* major contraindications (such as hormone-dependent cancers). Offered means to explain to every consulting woman why androgens are key for many aspects of women's health, far beyond sexuality.

Well informed women should then make their own choice and give their written consensus to the androgen treatment, systemic and/or local, vulvo-vaginal, when interested.

The information offered to women should include a concise summary of:

- ❖ **androgen's physiology.** Only a few women and a minority of physicians know that:
 - androgens plasmatic levels are far higher than estrogens in women's body, particularly in the first part of the menstrual cycle (estrogens levels are higher only during pregnancy; progesterone levels are higher than testosterone both in the luteal phase and in pregnancy);
 - androgens plasmatic levels peak around 20 years of age. Their adrenal and ovarian production is then gradually reduced with age (with the exception of women affected with Polycystic Ovary Syndrome, PCOS). At the age of 50, women have lost on average 50% of their testosterone and up to 60-70% of their DHEA, with subtle and yet pervasive consequences: why not replace them?

- after the menopause, the ovarian exhaustion and the progressively reduced adrenal androgen production deprive women of a substantial component of their biological energy;
- ❖ **androgen's role in women's body**, highlighting their specific action on:
 - **the brain:** androgens stimulate neuroplasticity, having a trophic role both as testosterone and through the aromatization to estradiol. The prominent effect is on the dopaminergic system, with increased activity and performance level of the seeking-appetitive-lust system, with a specific impact on sex drive, the motor system, and the memory system, the latter in synergy with the cholinergic neurons. Androgens reduce the neuroinflammation, thus preventing/reducing the most powerful common denominator of depression, cognitive impairment leading to Alzheimer, and motor impairment contributing to Parkinson's disease;
 - **the muscles:** in synergy with appropriate physical exercise, androgens contribute to maintain an optimal muscle mass, strength and performance, thus contrasting sarcopenia, an otherwise powerful contributor to frailty in the elderly;
 - **the bones:** they promote the activity of the osteoblasts and reduce the activity of the osteoclasts, thus contributing to a net bone calcium balance;
 - **the immunitary system:** whilst estrogens' fluctuations and then loss are powerful triggers of mast cells' degranulation, contributing to increased local and systemic inflammation, androgens down-regulate the hyperactive immune system, with an overall better balance, reducing the vulnerability to inflammatory and autoimmune diseases;
 - **the hematopoietic system:** androgens are useful to prevent and cure the anemia of the elderly (whilst erythrocytosis, with increased red-cells count and increased hemoglobin, is a contraindication);
 - **the gut brain and microbiota**, which are emerging contributors not only of bowel pathologies, such as the irritable bowel syndrome (IBS), but also of neurological diseases, such as the Parkinson's disease;
 - **the vulvar and vaginal tissues**, with a specific trophic and pro-sexual effect;
 - **the pelvic floor trophism;**
 - **the bladder function;**
- ❖ **reasons of persisting androgen neglect in the clinical practice.** Three major facts, rooted in clinical mistakes, have shadowed the role of androgens for women's health:
 1. the use of different units to measure sexual hormones (picograms for estradiol, nanograms for testosterone, micrograms for DHEA and DHEA-S) has generated for decades the wrong idea that estradiol is *quantitatively* the most abundant sexual hormone in women. This idea, shared by physicians and lay people alike, has marginalized the role of androgens, particularly after the menopause, with a dramatic reduction of vital energy and longevity in health for women;
 2. when testosterone patches were investigated, they were studied just to prove that women's sexuality could be improved (in fact with a limited benefit, from 1 to 2 sexual encounters/month), with a total neglect of the many advantages testosterone could have offered to prevent/reduce the risk of cognitive impairment, Parkinson's disease, sarcopenia, osteopenia/osteoporosis, to modulate/reduce the progression of autoimmune diseases, to improve the anemia of the elderly, the bladder function and the



pelvic floor tonus (the bladder wall and the elevator ani are extremely rich of androgen receptors in women);

3. lack of long prospective clinical trials on systemic DHEA, and ideologically distorted analysis of a few small studies, have marginalized the huge health impact that is clinically evident when well-tailored androgens and estrogens treatments are carried out in the long term, in synergy with appropriate healthy lifestyles.

Forty years of Author's clinical experience show that *well informed women* are far most interested to continue androgens therapy when they experience the many health-related systemic benefits they can enjoy, in the short and long term. As many women say: «A smarter sexuality is just the flower in the buttonhole of a more rewarding sense of regained vital energy, physical and mental». Treatment options include testosterone (with vulvovaginal creams, gel or other routes of administration) and/or DHEA [oral, at different dosages, and vaginal (prasterone)]. **Conclusion:** YES, androgens should be routinely *offered* to postmenopausal women, with the exception of the minority who present major contraindications. In synergy with estrogens and healthy lifestyles, androgens are women's best friends, from puberty to old age. In the clinical practice, a clear explanation of pros and cons, including the lack of "pro-androgens" guidelines in women, should be given. A signed consensus to androgen treatment should be reported in the clinical record. The goal of androgen treatment is to optimize women's vital energy, overall health and quality of life – including couple's sexuality, if welcomed – after the menopause and beyond.

OPTIMIZING PSYCHOSEXUAL HEALTH WITH PERIMENOPAUSAL CONTRACEPTION: A CLINICAL PERSPECTIVE

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Women's psychosexual health may be deeply threatened by the perimenopausal transition. The impact on the couple's relationship can be significant, requiring new adjustments, or disrupting, leading to the separation of the partners. Women's *sexual identity, function and relationship* may be variably affected by the menopausal transition, the younger the woman, the stronger the potential impact.

Contributors to psychosexual disorders in the premenopausal years include:

- ❖ Increased *fluctuations of estradiol and progesterone*, due to the variable ovarian hyporesponsiveness of the premenopause, leading to worsening of premenstrual symptoms such as:
 - anxiety, depression, irritability, aggressiveness and sleep disorders affecting sexual drive, sexual responsiveness, arousability and couple's dynamics;
 - appearance or worsening of neurovegetative vasomotor symptoms, such as the first hot flushes/sweating during the menstrual phase and night tachycardia, more frequent/intense if the woman had alcohol in the evening. These early symptoms may contribute to the overall sense of loss of vital energy, fatigue, distress, disappointment and frustration during the day, leading to the comprehensive and yet elusive statement: "I do not recognize myself anymore";
 - increased appetite for sweets, fat-rich foods and alcohol, increasing the vulnerability to changes in

body weight and body shape, with increased abdominal and visceral fat. On the biological side, this increases the levels of systemic and brain inflammation, contributing to depression and anxiety. On the psychosexual side it affects the woman's perception of her seductivity, femininity and overall sexual identity

- *Age-dependent reduction of androgens*, and specifically of testosterone, reduced up to 50%, and of dehydroepiandrosterone (DHEA), up to 60-70%, with a major and yet underappreciated impact on sexual drive, mental and physical arousability, intensity of the clitoral and coital orgasm. Biological correlates can be well diagnosed during the physical examination by a careful and skilled physician. They include the early whitening and loss of the pubic air (perceived as a sexual stigma by some women and partners), reduced volume of labia majora and minora, thinning of the vulvar skin and changes in the pelvic floor muscles and competence, with early modifications of the pelvic biomechanics and static competence.
- *Comorbidity dependent*, including, but not limited to: *iron-deficient anemia (IDA)*, more frequent if the woman suffers from functional or submucosal myoma/dependent heavy menstrual bleeding (HMB). This is an underappreciated cause of low sexual drive, as iron is key also to maintain appropriate levels of dopamine in the brain; *diabetes*, for its complex metabolic, vascular and nervous consequences; *obesity*, for the associated increased systemic and brain inflammation and depression; *celiac disease*, for the impaired absorption of key nutrients, for the associated inflammation that affects the gut brain, and for the impending risk of POF it conveys; *hypothyroidism* for the subtle and complex impact on the whole sexual response; or *vulvar lichen sclerosus*, an autoimmune disease that causes a full thickness inflammation and involution of the vulvar tissue with dramatic and underappreciated specific sexual consequences
- *Lifestyle dependent: pro-inflammatory or hypercaloric diet and alcohol use* (above 1-2 glasses/week), *physical inactivity* and *chronic sleep shortage* may further affect the physical and emotional well being, contributing to impair the whole sexual response in the perimenopausal years

Women at higher risk of *premature ovarian failure* (POF) and, consequently, of an earlier perimenopausal transition include women with a family history of POF; with autoimmune diseases such as celiac disease, thyroiditis, rheumatoid arthritis, when the dysfunctional immune system may attack the ovary after a first organ; survivors of chemotherapy, total body or pelvic radiotherapy. The risk should be considered when early and still "vague" or occasional menopausal symptoms and/or sexual dysfunctions, worsening of the premenstrual syndrome and/or changes in the body shape are reported in the clinical consultation.

The optimal approach to premenopausal sexual complaints requires a detailed clinical history (medical, besides psychosexual), accurate physical examinations and exams, including hormones levels (on the 3rd-or 4th day from the beginning of the cycle). The first recommendation is to improve life-styles, and to encourage the woman to assume full responsibility in changing her daily life for the better, in synergy with appropriate medical advice. 30-45' of daily brisk walking help to steam-off the negative emotions and recharge limpid vital energy that may boost sexual drive.

Sexual dissatisfaction and sexual dysfunctions are the result of a multifactorial etiology: this is why sexual dysfunctions cannot be addressed with a single pill.



This said, a well tailored contraception (oral, or with contraceptive ring or patches) can reduce psychosexual symptoms through:

- ❖ Normalization/stabilization of the plasmatic levels of estradiol and progestins, which translates into a significant reduction of all the menstrual and premenopausal symptoms due to the otherwise increased fluctuations of estradiol and progesterone. Estradiol containing pills are the most appropriate for premenopausal women
- ❖ Reduction of the hormone-free interval (HFI), from 7 to 4, 2 days, or eliminating the HFI for two-three months or more, according to the woman preferences, maintains constant hormonal levels of estradiol and progestins, thus eliminating the increased inflammation, and related symptoms, associated with periods. The parallel reduction/elimination of the menstrual bleeding will also reduce IDA, thus contributing to an improvement of the sense of vital energy, overall well-being and sex drive

Clinical note: when the blood sample indicates a significant reduction of free testosterone and /or DHEA, it is clinically appropriate to replace those hormones, as they are the most important biological fuel of sex drive, in association with the prescribed pill. As no guidelines address this specific association, a detailed signed consensus should be reported in the medical record. This Author' experience, with thousand of patients treated over the years, with ongoing follow-ups, includes topical testosterone, either propionate or of vegetal origin, to be applied daily (a fingertip) to the vulva and inside the vagina, with a gentle massage on the upper part of the vagina, to improve the vaginal and urethral wellbeing and potentiate the sexual response. DHEA (10 or 25 mg, 1 cps in the morning after breakfast) contributes to re-enhance the biological basis of well being, perceived sense of vital energy and sex drive. If the woman is nulliparous or had only cesarean deliveries, she is likely to have an increasingly hyperactive pelvic floor, with recurrent candida and coital pain at the entrance of the vagina. A specific physiotherapy, with BioFeedBack, should be recommended to relax the hyperactive pelvic floor, in perfect synergy with the pharmacologic therapy and life-style changes. This multimodal, comprehensive approach, where Hormonal Contraception is given in association with androgens, when indicated, empowers the physician ability to address the complex scenario of psychosexual issues before and across the menopause. To optimize the impact, coexisting male sexual problems, either lifelong such as premature ejaculation, or acquired, such as the erectile dysfunction, should be diagnosed and treated in parallel, to give the couple a new boost, if welcomed. The presentation will address the key biological contributors to sexual dysfunction in the premenopause, the role of a well tailored contraceptive choice, and the value of adding androgens, when clinically indicated.

CAN IVF INFLUENCE HUMAN EVOLUTION?

Hans Ivar Hanevik, Norway

As all other animal species, humans are influenced by evolution. We change. In large, well-studied human populations, some recent changes in physiology and behavior were due to evolutionary effects [1]. The most common mechanism of evolution is natural selection, where selection pressures are applied on available phenotypes. All the necessary requirements for natural selection are present in IVF clinics, and in this talk I argue that IVF influences human evolution. Natural selection also occurs in non-assisted human reproduction of course, but selection pressures in IVF

are very different compared to the natural situation. Take for example the sprinter spermatozoon that wins the race in IVF. This spermatozoon swims very short distances compared to the long-distance specialist that fertilizes the oocyte in nature. ICSI is an extreme variant of this, where the spermatozoon barely has to move at all. The ICSI spermatozoon also avoids the hassle of finding its way to the oocyte by a probably chemotactic mechanism. This and other examples concerning the systematically different selection pressures that are applied on oocytes, embryos and even couples wanting to conceive in IVF programs compared to the natural situation, suggest that IVF influences human evolution. If so, this is another case of cultural and technological advances inducing changes in the human genome. A previous, well-known example of such gene-culture co-evolution is the relationship between lactase expression and milk consumption in human populations. In comparison, the evolutionary implications of systematically different selection pressures in IVF could be even more influential, as evolutionary theory underlines that selection works through differential reproductive success and not through differential survival. The purpose of this talk is not to judge or impose a set of norms on IVF, but rather to draw attention to the fact that IVF is not just a treatment for infertility, but also a technological intervention at the point in a human life cycle where natural selection operates at its strongest. Although IVF is a great medical achievement, it circumvents a range of pre- and post-zygotic reproductive barriers. It increases the reproductive fitness of subfertile couples by technologically removing several naturally occurring selective barriers and by altering other such barriers. In accordance with the basic principle of evolution, the subsequent generations will thus be genetically and epigenetically adapted to an environment in which reproduction is increasingly dependent on technological intervention.

1. Stearns, S.C., et al., *Measuring selection in contemporary human populations*. Nat Rev Genet, 2010. 11(9): p. 611-22.

DEBATE: STANDARD IVF VS ADD-ON IVF - WHAT IF THE PATIENT IS WILLING TO PAY FOR ADD-ONS?

Joyce Harper, UK

It is estimated that the assisted reproductive technologies (ART) industry is worth almost \$27 billion. In some countries ART cycles are publicly funded but in others, such as the UK, there is very limited funding. Globally the cost of ART varies enormously and one cost that can double the price is adjunct treatments. An adjunct is defined as any technique that is a variation or add-on from the standard IVF cycle (Harper et al., 2017). The majority of add-ons claim to increase live birth rate (LBR), but these claims should be backed up by robust randomised controlled trial (RCT). In an RCT, patients are randomly allocated into a control or treatment group, and the primary outcome needs to show a significant improvement in the live birth rate. These studies need to be adequately powered, ideally with at least 200 patients per arm. The Human Fertilisation and Embryology Authority have analysed the RCT's for a list of adjuncts and rated them according to a traffic light system. Assisted hatching, intrauterine culture, preimplantation genetic testing for aneuploidy (PGT-A) (using cleavage stage biopsy) and reproductive immunology tests and treatments get a red light, meaning that there is no evidence that they will improve live birth. All of the other adjuncts are rated amber which means there is limited evidence but not enough to routinely offer the treatment. Infertile patients will often try any form of treatment if they feel that it gives them even a slight chance of improving their chance of success. They may feel guilty or a failure if they have not given it their best shot. If their physician recommends a treatment, they will probably do it, at any price.



THE IMPACT OF ANTENATAL BISPHENOL A EXPOSURE ON MALE REPRODUCTIVE FUNCTION AT 20–22 YEARS OF AGE

Roger J. Hart, *Australia*

Bisphenol A (BPA) is an ubiquitous chemical suspected to possess oestrogenic hormonal activities. Male population studies suggest a negative impact on testicular function. As Sertoli cell proliferation occurs during fetal or early postnatal life, it is speculated that oestrogenic environmental exposures may influence mature testicular function. Among 705 Western Australian (Raine) Cohort men aged 20–22 years, 404 underwent testicular ultrasound examination (149 who had maternal serum available), and/or 365 provided semen (136 had maternal serum) and/or 609 serum samples for sex steroids, gonadotrophins and inhibin B analysis (244 had maternal serum). Maternal serum collected at 18- and 34-weeks gestation was pooled and assayed for concentrations of total BPA (free plus conjugated) as an estimate of antenatal exposure. Testicular volume was calculated by ultrasonography, and semen analysis performed. Serum luteinising hormone, follicular stimulating hormone and inhibin B were measured by immunoassay while testosterone, oestradiol, oestrone and BPA were measured by liquid chromatography-mass spectrometry (LC-MS). In most (89%) maternal serum samples BPA levels were detectable. After adjustment for maternal smoking, abstinence and varicocele; sperm concentration and motility were significantly positively correlated to maternal serum BPA ($r=0.18$ $p=0.04$ for both), no other associations of maternal serum BPA with testicular function were observed.

THE ROLE OF PROBIOTICS AND LACTOBACILLUS REUTERI DURING PREGNANCY: WHAT IS THE EVIDENCE?

Flavia Indrio, *Italy*

During the course of a normal pregnancy, several deep and dynamic physiological changes occur in the mother. Some of the endocrine and immune changes induced by pregnancy increase the susceptibility of the mother to various infections, including those of the oral cavity. During pregnancy, there is a reduction of antimicrobial activity of peripheral neutrophils, essential components of the innate immune defenses of the periodontal tissues. This could be related to the well documented increase in gingival inflammation observed during pregnancy. One of the main changes in the immune system during pregnancy is the partial mitigation of the immune responses that are mediated by the mother's cells, as 50% of the antigens in the cells of the fetus are derived from the father, and these cells are chronically exposed to the mother's immune system. Several complex physiological changes are therefore induced during pregnancy in order to prevent immune rejection in the mother's body of her fetus. Researches have shown that pregnant women are exposed to a higher risk of gingival alterations. The increased susceptibility to infections in the oral cavity can occur due to pH decrease and, consequently, the salivary buffer capacity during pregnancy, which, along with the change of dietary and oral hygiene habits, contributes to bacterial growth and increases the risk of caries. Among the changes most frequently cited in the literature in pregnant women are gingivitis, periodontitis and pyogenic granuloma. The early identification and treatment of gingivitis and periodontitis in pregnant women is crucial when you consider the existent evidence about the potential association between oral health disturbances during pregnancy and adverse problems, including preeclampsia, low birthweight and preterm birth. During pregnancy, there are some changes in the interactions between periodontal microbiota and the host, which can be

favorable for periodontal damage. Regarding the role of cytokines, expression levels of interleukins (IL-1 β and IL-6), tumour necrosis factor- α , and inducible nitric oxide synthase were recently evaluated in pregnant women with and without periodontal disease compared to non-pregnant women with and without periodontal disease, and it was found that this disease is not influenced by pregnancy. Previous analyses of microbiological culture have demonstrated that changes in estrogen and progesterone associated with pregnancy have an effect on the composition of the subgingival microbiota, which was also confirmed by more recent studies. The role of probiotic supplementation during pregnancy will be discussed.

VVA – DO WE NEED TO CHANGE NOMENCLATURE TO GSM?

Bari Kaplan, *Israel*

After menopause, the ovaries cease to produce significant amounts of Estrogen. Since estrogen receptors are present in the vagina, urethra, bladder trigone and the pelvic floor, the lack of estrogen leads to atrophy of these structures which is manifested by a marked thinning of the epithelium, a reduction in blood supply, a loss of glycogen, *more parabasal cells, high nuclear/cytoplasmic ratio, inflammatory exudate*. These changes cause an increase in the pH of the vagina, making it more alkaline, which in turn leads to alterations in the vaginal microbiome. Other changes include a loss of labial and vulvar fullness, pallor of urethral and vaginal epithelium and decreased vaginal moisture. This condition is known as Vulvo-Vaginal Atrophy (VVA) of menopause or as Urogenital Atrophy of menopause. In the same way that the hypoestrogenic state after the menopause impacts the skeletal system by causing a reduction in bone mass, microarchitectural distortion and resulting in osteoporosis, this hypoestrogenic state leads to vulvo-vaginal atrophy which results in vaginal dryness, pruritus, dyspareunia, dysuria, and urinary urgency. Unlike vasomotor symptoms, which abate over time, vaginal atrophy can be progressive and is unlikely to resolve on its own. The International Society for the Study of Women's Sexual Health (ISSWSH) and the North American Menopause Society (NAMS) have endorsed a new term for these symptoms – Genito-Urinary Symptoms of Menopause (GSM) replacing the old name Vulvo-vaginal atrophy. They define vulvo-vaginal atrophy (VVA) as the appearance of the vulva and vagina after the menopause, irrespective of associated symptoms. Similarly, Atrophic vaginitis reflects inflammation or infection of the vagina. Neither of these terms describe the urinary symptoms associated with the menopause. Furthermore, they state that labels such as "Atrophy" may have negative connotation to patients whilst other patients may prefer not to use the word vagina. The authors compare the use of GSM to the term "erectile dysfunction", replacing the emotionally charged term: "impotence" or having to say "penis." We believe that the new term GSM should not come to replace the term Vulvo-vaginal atrophy, rather, the two terms describe separate phenomenon. Much like osteoporosis is a condition manifested by increase fracture risk, vulvo vaginal atrophy is a condition manifested by increased genito urinary symptoms

ASSESSMENT OF FETAL GROWTH IN TWINS

Asma Khalil, *UK*

The risk of fetal growth restriction (FGR) is increased in twin pregnancies, particularly in monozygotic twins. Although twins and singletons have similar growth patterns in the second trimester, in the third trimester growth velocity in twins is found to be consistently less than in singletons, again with the differences most pronounced and noted earlier in



monochorionic pregnancies. The key question for clinicians is whether this difference in growth represents physiological adaptation or true restriction? If growth in twins is limited by the ability of the mother to supply the metabolic demands of two growing fetuses, does that suggest the need for twin-specific growth charts because they are physiologically distinct from singletons? Or does it provide a pathophysiological explanation for the increased incidence of FGR in twins? If physiological, there is a need for twin-specific fetal growth assessment, but if pathological, then there is an argument to continue using singleton growth charts in order to avoid missing FGR in twin pregnancies. It is also important to note that ultrasound estimation of fetal weight (EFW) is less accurate in twin pregnancies than in singletons. This observation further undermines the validity of using singleton norms for management of twin pregnancies, and the potential harm associated with unnecessary iatrogenic preterm delivery, simply due to the poor tools used in identifying the fetuses at risk. A policy which relies on fetal size alone to identify fetuses at risk is unlikely to be very effective in preventing stillbirth, particularly close to term. There is a need for better markers to identify fetuses at risk of adverse perinatal outcome among those that are small for gestational age (SGA), as the majority of SGA fetuses have normal perinatal outcomes. National and international guidelines recommend ultrasound assessment of dichorionic twin pregnancies every 4 weeks and monochorionic pregnancies fortnightly from 16 weeks' gestation. At each scan the EFW of each twin should be recorded and the inter-twin weight discordance calculated using the formula [(weight of larger twin – weight of smaller twin) × 100]/weight of larger twin. Longer inter-scan intervals are likely to be associated with a more severe presentation at diagnosis of any complications and consequently with poorer pregnancy outcomes. In recent years, the detection and diagnosis of FGR in monochorionic twins has been the subject of intensive research and discussion, and there has been moves to standardise description and classification in order to better investigate optimal management. Where FGR is suspected in monochorionic twin pregnancies, a thorough assessment by a fetal medicine specialist is warranted. In formulating a diagnosis and optimal clinical management, it is important to consider whether one or both twins are affected, assess the degree of any growth discrepancy, rule out any underlying causative conditions and evaluate factors associated with prognosis. Unlike singletons, each twin (in particular monochorionic twins) comes with its own 'control'. The difference between twins can help to discriminate between well small babies and pregnancies affected by FGR. When both twins are constitutionally small, they are at lower risk of complications than twins with significantly different growth trajectories; this is particularly true when it comes to genetically identical siblings. Although twins are rarely identical in size, significant growth discrepancies are associated with poor perinatal outcomes and may be more important than the absolute size of individual babies in relation to perinatal outcome.

HOW TO AVOID STILLBIRTH IN TWINS

Asma Khalil, UK

The stillbirth rate in the UK remains one of the highest in Europe. This has prompted the UK government to set a target in 2016 of reducing stillbirths by 20% by 2020 and 50% by 2030.

In the past 30 years, the twin birth rate has risen worldwide, due largely to the increasingly widespread use of assisted reproduction techniques and delayed childbirth resulting in advanced maternal age at conception. Approximately one third of twin pregnancies result from assisted reproduction,

hence the practice of single embryo transfer now being advocated in many countries. Twin pregnancies are associated with a thirteen-fold increase in the rate of stillbirths in monochorionic, and a five-fold increase in dichorionic, twins compared with singleton pregnancies. Although multiple pregnancies comprise only 1.6% of all births in England and Wales, they represent around 20% of preterm births, 6% of stillbirths, 18% of neonatal mortality and 10% of all NHS maternity litigation claims in respect of stillbirth. Moreover, the risk of cerebral palsy is six times higher in multiple pregnancy than in singletons. In 2018 MBRRACE published its report focusing on perinatal deaths in the UK in 2016. While disappointing that the rate of stillbirths in singletons remained static, the report described a significant fall in the rate of stillbirths and neonatal deaths in twin pregnancies. In fact, the stillbirth rate was almost halved from 11.07 (95% CI, 9.78 to 12.47) per 1,000 births in 2014 to 6.16 (95% CI, 5.20 to 7.24) in 2016 (Table 1, Figure 1). The neonatal mortality rate in twins also fell significantly from 7.81 (95% CI, 6.73 to 9.01) to 5.34 (95% CI, 4.47 to 6.36) per 1,000 live births. What might account for this impressive reduction, can it be maintained, and are there any lessons that can be applied to singleton pregnancies to try to effect a similar reduction? A number of national and international guidelines which focused on twin pregnancies have been published in the last few years, such as the National Institute for Health and Care Excellence (NICE) guideline and quality standards, the International Society of Ultrasound in Obstetrics and Gynecology (ISUOG) guideline and the Royal College of Obstetricians and Gynaecologists (RCOG) Green-top Guideline on the management of monochorionic twin pregnancy. This was followed by extensive efforts to improve awareness and training of healthcare professionals. Monochorionic twin pregnancies generate management dilemmas for clinicians and are associated with significantly higher perinatal mortality and morbidity. Monochorionicity-related complications include twin-to-twin transfusion syndrome (TTTS), selective fetal growth restriction (sFGR), twin anaemia polycythemia sequence (TAPS) and twin reversed arterial perfusion sequence (TRAP). Over the past 5 years there have been a number of key improvements in the diagnosis, monitoring, management and fetal therapy for complex monochorionic twins. Whether this reported decline in perinatal mortality in twins can be replicated in singleton pregnancies is as yet unknown. However, one would imagine that initiatives such as focused efforts on implementation of evidence-based guidelines, education and training, might also be effective in singletons. One third of stillbirths in singletons occur after 36 weeks' gestation and up to two thirds after 34 weeks; if these at-risk fetuses could be identified and delivered appropriately, many of these stillbirths could potentially be avoided. Over half of stillbirths are related to impaired fetal growth secondary to placental dysfunction. Until recently, two thirds of stillbirths were considered 'unexplained' and therefore thought to be unavoidable. Using a new classification system, however, it has been demonstrated that 43% of stillborn babies were growth restricted. Therefore, a policy of screening for fetal growth restriction, and tailored antenatal surveillance and intervention, could potentially prevent a significant proportion of stillbirths.

HOW TO OVERCOME HORMONE RESISTANCE IN WOMEN WITH BREAST CANCER?

Ludwig Kiesel, Germany

Department of Gynecology and Obstetrics, Breast and Gynecology Cancer Center, University of Münster, Germany

Breast cancer is diagnosed annually with over one million women world-wide. More than 70% of breast cancers are endocrine-sensitive, as defined by the expression of estrogen



receptor (ER) and/or progesterone receptor (PR). Despite advances in treatment strategies, metastatic breast cancer (MBC) is an incurable disease, with a 5-years survival rate of 25% and a median overall survival (OS) of 3 years. Endocrine therapy has dramatically improved survival in breast cancer patients but the resistance to endocrine therapies remains one of the major causes of breast cancer mortality. In women, who are diagnosed with MBC, 50% will develop endocrine resistance and disease progression during therapy. The treatment of this group of patients is one of the most important research fields over the last years. Primary endocrine resistance is defined as a relapse within 2 years of adjuvant endocrine treatment (ET) or a progression within the first six month of first-line ET for MBC, whereas secondary endocrine resistance is defined as a relapse within the first 2 years of adjuvant ET or within 12 months after concluding adjuvant ET or a progression of disease after 6 month of ET for MBC. Mechanisms of resistance to endocrine therapy are known to occur at several levels, including the deregulation of several components of the ER/PgR pathway, changed regulation of signaling molecules of the cell cycle or cell survival and the activation of escape pathways that can initiate cell proliferation. Patients can experience resistance during treatment with all endocrine drug classes. Resistance mechanisms can occur *De novo* or acquired by up-regulation of alternative signaling pathways. One of the most investigated mechanism of ET-resistance is through affecting ER constitutive ligand independent transcriptional activity. ER α mutations are rarely found in primary tumors but are enriched in tumor biopsies from patients, who underwent endocrine treatment with an Aromatase inhibitor (AI). They can lead to a ligand independent activation of ER and thereby to an endocrine resistant phenotype that needs to be addressed by alternative therapeutic strategies. CDK4 and CDK6 are enzymes, which promote cell cycle progression from G1 to S phase by interacting with D- type cyclins, are potential targets for anti-cancer therapy. Development of CDK 4/6 inhibitors has changed the therapeutic management of HR+ metastatic breast cancer (palbociclib, ribociclib, and abemaciclib). The use of CDK 4/6 inhibitors in combination with specific endocrine therapies improves progression free survival (PFS) and quality of life as it has been shown in the PALOMA-3 trial in endocrine-therapy resistant patients (9.2 months in the palbociclib-fulvestrant group and 3.8 months in the placebo-fulvestrant group. Enhanced signaling through PI3K/AKT/mTOR pathway is also an important mechanism of resistance to endocrine therapy in HR+ breast cancer. This pathway is often upregulated in MBC and promotes ER transcriptional activity, thereby leading to anti-estrogens resistance and tumor cell growth. Drugs targeting this pathway have shown to increase PFS in MBC. In up to 40% of HR+, Her2- BC PI3KA mutations can be found. The addition of everolimus (Inhibitor of the mTOR pathway) to an AI enhances the PFS (6.9 moths vs 2.8 month. Therefore, the combination of everolimus and exemestane remains a reasonable second- or third-line therapy after progression on endocrine therapy (BOLERO-2 trial). Very recently, it could be shown that PI3K inhibitors can also increase the prolongation of progression-free survival among patients with *PIK3CA*-mutated ABC (SOLAR-1 trial), who had relapsed or progressed during or after previous endocrine therapy (11.0 months vs 5.7 months). In summary, endocrine treatment is a mainstay for HR+/HER2- MBC and resistance to ET still remains an important challenge. The improved knowledge of mechanisms causing hormone resistance has allowed the development of new targeted therapies for MBC treatment. CDK4/6 inhibitors combined with endocrine agents have changed the prognosis of patients progressing to endocrine treatment significantly and can be recommended as a first-line therapy in case of progression. mTOR inhibitors (everolimus)

and PI3K inhibitors (apelisib) can be suggested as second-line therapy in combination with fulvestrant or exemestane. PI3K inhibitors are especially recommended for patients with PI3KCA mutations, before chemotherapy should be initiated. In the future studies should focus on the identification of reliable response and resistance biomarkers to select patients benefiting most from currently available therapy options. Furthermore, mechanisms behind the resistance to CDK4/6 and mTOR inhibitors have to be elucidated and treatment options after progression on these drugs analyzed.

SHOULD WE MEASURE PROGESTERONE ON THE DAY OF A FROZEN EMBRYO TRANSFER? YES

Elena Labarta, Spain

The administration of exogenous progesterone (P) is needed for the luteal phase support in artificial endometrial preparation cycles with hormone replacement therapy (HRT) for embryo transfer. By promoting endometrial maturation, is essential for the embryo implantation process. The transformation of the endometrium from a proliferative to a receptive state depends on an adequate exposure to P, which prepares the uterus for implantation and the maintenance of pregnancy. Progesterone has also non-hormonal actions such as allowing immune tolerance during pregnancy, especially affecting the synthesis of cytokines and the function of Natural Killers cells. Low exposure to P at the time of implantation or during early pregnancy may result in an implantation failure or spontaneous miscarriage. Surprisingly, there is no individualization in the best route, dose or time of exogenous P administration, as published studies do not demonstrate that there is a clearly superior protocol. There are different administration routes of P such as vaginal, subcutaneous, intramuscular, oral or rectal. Until now, the vaginal route has been the most used in Europe. It has been shown that although serum P levels appear to be lower after vaginal than intramuscular administration, vaginal route results in an adequate secretory transformation and good pregnancy rates. This discrepancy suggests that the bioactivity of vaginal P in the uterus is higher, due to the effect of the first step of the uterus. For this reason, no measurement of serum P levels have been conducted to analyse if the absorption was adequate. The best context to analyse the net impact of exogenous P is the artificial cycle, in which there is no endogenous production, in comparison with the stimulated or natural cycle. In this scenario, recent studies have suggested that serum P levels have a correlation with the success rate in artificial cycles when using the vaginal route. The only published prospective study analysing this topic was carried out in oocyte donation cycles performed in our centre (Labarta et al., 2017), showing that there is a serum P threshold (9.2 ng/ml) below which ongoing pregnancy rates significantly decrease (32.7% vs 52.8%, $p=0.016$). These results have been confirmed and validated in a large prospective study of almost 1200 unselected patients undergoing an embryo transfer in an artificial cycle, regardless the origin of the oocytes and after adjusting for any confounding factors (Labarta et al., ESHRE 2019). In summary, after analysing more than 1400 artificial cycles with the same luteal phase support, we can conclude that we have found the critical threshold of serum P on the day of ET, which is around 9ng/ml. Before these two studies, some clinicians were measuring serum P on the luteal phase but the decision making on when to increase exogenous P was doctor dependent, as the threshold was not clearly established. The advantage of our studies is that we were absolutely blind to the results of serum P and no modifications of exogenous P were done, being this the best way to analyse its impact. Once demonstrated that these results can be extrapolated to the general infertile population, our new research is focused on



finding the best way to increase serum P levels and improve the live birth rate. Moreover, data about the reproducibility of this situation in a subsequent cycle when using the same doses of P or even the ability to predict at the beginning of the luteal phase that serum P levels will be low in the mid luteal phase will be also presented. Although the role of P on endometrial receptivity was well documented, its serum levels were neglected in many cases. Being aware of its impact and the possibility of reversing the cases with low serum P levels, implies a change in our daily clinical practice and management of the luteal phase.

Keywords: Serum progesterone, vaginal administration, artificial cycle, embryo transfer, ongoing pregnancy

GENETICS OF MENOPAUSE

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Menopause is defined as the permanent cessation of ovulation and hence menstruation due to ovarian failure. The median age of menopause is 51 years. However, early menopause might occur at 40 years of age whereas late menopause might happen as late as 62 years of age. Menopause is also a highly heritable condition. Genetic variants are known to contribute to about 50% of the variation in age at menopause. Several genetic studies have tried to unravel this genetic background making use of different genetic techniques in population studies as well as in animal models. Genome wide linkage studies have only identified a limited amount of genetic variants that seem to be associated with menopause. Population based studies as well as animal research into the genetic background of POI has identified several genetic variants that seem to be associated with primary ovarian insufficiency. However, a lot of these studies suffer from methodological flaws since results are generally not replicated in different independent samples and most of these studies are underpowered. Hence results are conflicting. Recent genome wide association studies (GWAS) have identified numerous, over 220, genetic variants that are associated with menopause. The majority of identified genetic variants seem to be mainly involved in DNA repair and DNA maintenance. Another cohort of genetic variants are important in mitochondrial function as well as in immune systems. Biological as well as epidemiological data seem to indicate that reproductive performance, age at menopause and longevity are interlinked through common genetic factors involved in DNA repair and DNA maintenance. In case these systems fail cell death and accelerated loss of function occurs which is generally referred to as ageing. Consequently, ageing of the soma as a result of inefficient DNA repair appears also to be responsible for failure to reproduce and the subsequent occurrence of menopause. In this way reproductive performance might be strongly linked to the physical condition of the soma and may be a very good predictor for general health in later life.

PREDICTING LIVE BIRTH FOR POOR OVARIAN RESPONDERS: THE PROsPeR CONCEPT

Philippe Lehert, *Australia*

Our objective was the development of the first specific tool of live birth prediction for Poor Ovarian responders treated with recombinant human FSH. Two continuous models were

developed separately for patients with/without first ART experience and were synthesized by the simplified Poor Responder Outcome Prediction (PROsPeR) model using only three variables: AMH, Age and previous (if exiting) number of oocytes. The best discrimination was found compared with other models (AUCROC=.84 [.79-.88]). The model was demonstrated as directly applicable for any center under some simple calibration. Specific to POR, PROsPeR constitutes the best compromise between precision and simplicity, and is suitable for routine practice.

COMPLEX ENDOMETRIAL ORGANOIDs TO MODEL EMBRYO IMPLANTATION

Emma Lucas, *UK*

Problem statement: The establishment of a successful pregnancy depends upon timely and co-ordinated development of the endometrium in order to promote implantation and invasion by developmentally competent embryos, as well the ability to recognise and dispose of those embryos with limited developmental potential, for example aneuploid or otherwise compromised embryos. Failures in this quality control process are thought to underlie reproductive disorders such as recurrent pregnancy loss and implantation failure. Although animal models can provide useful information about early pregnancy which cannot be obtained in human, these models are limited by distinct differences in the timing and regulation of implantation processes. Further, while existing *in vitro* models of monolayer endometrial cell cultures allow the study of discrete cellular responses to hormonal and biochemical signals, they lack the structural and functional complexity of the *in vivo* situation and therefore preclude analysis of interactions between the different compartments of the tissue. Therefore we are striving to develop a complex three-dimensional co-culture system comprising the major cell types of endometrial tissue in order to develop higher resolution studies of the processes of decidualization and implantation. **Methods:** Dissociation of timed luteal phase endometrial tissue into single cell suspensions was performed by mechanical and enzymatic processing. Using a complex medium containing growth factors and inhibitors designed to induce glandular organoid formation, endometrial epithelial cell clumps were first expanded in matrigel, then passaged and cultured in collagen hydrogel to induce formation of epithelial organoids. By modifying the culture media, stromal cells can be included in the hydrogel cultures to form a supporting matrix around the epithelial organoids. Organoids and co-cultures can then be induced to differentiate in order to study the decidualization process. Further complexity can be added to the system by inclusion of endothelial cells and uterine natural killer (uNK) cells, isolated using Magnetic-Activated Cell Sorting (MACS) targeting the antigens CD93 and CD56, respectively. **Results:** To identify stromal-epithelial interactions, the minimal medium required for differentiation when cocultured with stromal cells was determined by systematically removing components of the medium and measuring expression of glandular differentiation genes. The established minimal medium maintained gland organoid differentiation to similar levels to when stimulated in the complex medium only when cocultured with stromal cells. In monoculture, organoids failed to differentiate in this medium due to dependence on a complex cocktail of growth factors and inhibitors. Single cell RNA sequencing of a decidual time course of organoids in both monoculture and in co-culture with stromal cells differentiated in minimal medium was performed. All undifferentiated organoids clustered regardless of stromal cell coculture. However, upon exposure of decidual cues, organoids from monoculture and coculture diverged. By day 4, monoculture organoids expressed stress genes (*BIRC3*),



whereas organoids in coculture expressed differentiation genes (*PAEP* and *SPP1*), suggesting the stromal interactions rescued differentiation of the organoids in the minimal medium. **Conclusion:** Endometrial cells can be propagated and differentiated in our three-dimensional co-culture system, and display transcriptional and morphological similarities to the human endometrium. Our minimal medium has been able to demonstrate that stromal cells influence epithelial gland differentiation and that our coculture system can be utilised to model epithelial-stromal interactions of the endometrium. Our ongoing work aims to exploit the system to develop patient- and disease-specific models using research embryos to study the complex interactions of embryo and endometrium at implantation.

A NEW PERSPECTIVE ON HIGH ORDER CESAREAN DELIVERIES UP TO NUMBER ELEVEN

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Introduction: As Cesarean Delivery (CD) rate is constantly on the rise, an ongoing debate deliberates how many repeat CDs are safe and how to counsel women regarding their family planning choices. It is customary to counsel women against additional pregnancies after their third CD. In this study, the authors aim to elucidate whether this is a prudent clinical strategy by evaluating and comparing the maternal and neonatal outcomes of women undergoing repeat cesareans, up to CD number 11. **Materials & methods:** In this single-center retrospective study, between the years 2012 and 2018, women who underwent a third CD were compared to patients undergoing repeat CDs up to their eleventh. Comparison of both maternal and neonatal outcomes was performed. Maternal outcomes evaluated included uterine rupture/dehiscence, adjacent organ damage (bladder and bowel), placentation, excessive bleeding, operation time, ICU admission and hospitalization length. Neonatal outcomes evaluated were Apgar scores, cord pH, birth weight and NICU admission. A statistical analysis was performed to assess the relative risk posed to the mother or newborn with each additional CD. **Results:** A total of 483 women undergoing 564 CDs (147 3rd CDs, 260 5th CDs, 99 6th CDs, 36 7th CDs, 11 8th CDs, 6 9th CDs, 3 10th CDs and 2 11th CDs) were included in this study. Following outcome stratification and comparison, no statistically significant differences were found in either maternal or neonatal major outcomes between the groups. Only 3 cases of uterine rupture were observed, 2 cases during 5th CD, and 1 case during 6th CD. The statistically significant differences included thin lower uterine segment and use of hemostatic agents. There were 3 urgent hysterectomies performed altogether in the high order cesarean group. There was a trend to higher blood loss in the 3rd CD group. The mean maternal age was 34.8 years (SD 3.9), mean gestational age 38+0 (IQR 37.6-38.9) and average birth weight 3065 grams (SD 506 grams) were without significant differences between the groups, except a trend towards an older maternal age in higher CDs. Moreover, the incidence of gestational diabetes, hypertension, obesity and other maternal diseases was highest in the third CD group, the rate reducing with each additional CD. We also conducted a gross analysis of CDs between the years 2008 to 2019. During this time frame 2,483 third to eighth CDs were performed (Third CD 1155 patients, average birthweight 3190 grams during the 39th week of gestation, Fourth CD 726 patients, average birthweight 3151 grams during the 38th week of gestation, Fifth CD 363 patients, average birthweight 3060 grams during the 38th week of gestation, Sixth CD 152 patients, average birthweight 3020 grams during the 37th week of gestation, Seventh CD 62 patients, average birthweight 2988 grams during the 37th week of gestation, Eighth CD 25 patients, average birthweight

2926 grams during the 37th week of gestation, and finally a few cases of 9th, 10th and 11th CDs). During this period, prior to their planned CD 30 patients were diagnosed with invasive placentation, that required a tertiary center medical team and were thus referred to such a center for their CDs. There was one case of maternal death during this period, from an amniotic fluid embolism. We discuss tubal sterilization with our repeat CD patients, and if they are interested in further fertility, we offer them a conditional informed consent for tubal sterilization. The surgeon decides whether to put the consent form into effect and proceed with tubal sterilization during surgery depending on the intraabdominal findings. **Conclusions:** Based on our data, there is no definite number of CDs a woman may undergo safely, rather this should be discussed individually based on the findings during surgery. Some women heal spectacularly with lower uterine segment intact, and no significant adhesions found even on their 10th CD. Also, there is a clear trend among patients who reach the high order cesareans, as being generally healthier relative to their earlier CD counterparts. Thus, it seems that patients with comorbidities are less likely to heal well enough for, or desire, additional pregnancies.

NO TREATMENT BEFORE IVF IS NEEDED FOR INTRAMURAL SMALLER THAN 3 CM FIBROIDS

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Uterine fibroids (UFs) are monoclonal benign tumors consisting of smooth muscle cells and connective tissue that develop in the uterine wall. Although the etiology is largely unknown, leiomyomas are estrogen- and progesterone-dependent tumors characterized by an increased and disorganized proliferation of smooth muscle cells with an overproduction of extracellular matrix (ECM). UFs seem to have an increased sensitivity to sex steroid hormones which is associated with a higher expression of estrogen receptor- α (ER- α) and progesterone receptor (PR) when compared to the normal myometrium. Furthermore, in the luteal phase while normal myometrial cells become quiescent, UFs tissue shows an increase in estrogen-regulated genes, which promotes cell proliferation and grows in response to progesterone (which typically has a suppressive effect on the myometrium). UFs represent one of the most common pelvic tumors. Symptoms associated with myomas depend on numerous factors such as number, volume and location. Generally, they cause heavy and prolonged menstrual bleeding that could lead to severe anemia in patients with UFs. Other symptoms are swelling and pelvic pain. In addition, UFs may alter female reproductive function, causing infertility, abortions and pregnancy complications. Although benign, leiomyomas may have serious consequences, requiring medical and/or surgical treatment. Annually, among women aged 15-54, UFs-related treatments account for 42 per 10,000 hospitalizations and in most of the cases the hospital stay is accompanied by some type of surgical procedure (hysterectomy, myomectomy). To date the available data concerning the management of fibroids are scarce. At present, in fact, there are only few published randomized trials that have compared different therapies for ULs and data on long-term outcomes (quality of life, fertility, recurrence of symptoms, complications) are still inadequate. Current management strategies include both surgical and medical options, depending on severity of symptoms, tumor number, location and size, patient's age and fertility preservation wishes. Furthermore, current available treatments for ULs to preserve fertility are not capable yet to control symptoms and progression of the disease and have not been proven to be effective in the long term or are associated with high risk of post-operative complications and



relapse of the disease. Treatments that offer long term resolution are often invasive and burdened by considerable costs related to surgery and hospitalization. Nowadays, UFs represent the most common indication for hysterectomy (2/3 of all hysterectomies are performed for this indication) and one of the main causes of the total health care cost in gynecological departments. Uterus-sparing surgical approaches include hysteroscopic myomectomy for small submucosal fibroids, laparoscopic or laparotomic myomectomy (depending on fibroids' location and size), laparoscopic cryomyolysis and thermo-coagulation and laparoscopic occlusion of the uterine arteries. Other minimal invasive but non surgical alternatives are uterine artery embolization (UAE), vaginal occlusion of uterine arteries and high frequency magnetic resonance-guided focused ultrasound (MGRFUS). Gynecologists generally considered medical treatments (oral contraceptives, levonorgestrel intrauterine devices, GnRH agonists/antagonists, Ulipristal acetate) as preoperative adjuvants mainly because of their inability to fully resolve UFs-related symptoms and their heavy side effects that limit their long-term use. However, depending on volume/location a conservative/medical treatment may represent a valuable option before IVF.

MINIMIZING CARDIOVASCULAR RISKS OF PERIMENOPAUSAL CONTRACEPTION

Lydia Marié-Scemama, France

Dealing with the approach of menopause after 40 women are entering a new phase - not to be confused with the onset of old age, as in the past. Cardiovascular risks increase with age. Contributing factors are: obesity, smoking, lack of exercise, metabolic diseases, stress or a history of pathologic pregnancies i.e. toxemia or eclampsia. QOL factors. The ongoing need for contraception. Changes in the household: children are grownup, couple experience renewed interest in sexual activity or are dealing with separation and life with a new partner. Perimenopausal contraception is often complicated to administer. « Primum non nocere » *Pills or IUD?* Certain countries today are against prescribing COC after the age of 35 even in the case of non-smokers. Other countries, such as France, prescribe it. Estrogens and blood circulation: Even in women presenting no cardio-vascular pathologies, synthetic estrogens, present in the majority of COC's, have a negative effect on the cardiovascular system: arterial and venous. Advantages of prescribing COC with natural estradiol or progestogens only? Best approach for women at risk: i.e. history of coronary disease, stroke, VTE and high blood pressure (HBP).

WHY DO NICHES (CS DEFECTS) FORM? ARE THEY A PROBLEM?

Ben W. Mol

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Caesarean section (CS) rates are rising globally. In the UK the CS rate increased from 12% to 29% between 1990 and 2008. In the United States, one in three women delivered by CS in 2011, whereas in China the rates have even risen from 2% in 1985 to 36-58% in 2010. The strongest increase was seen in Brazil from 15% in 1970 to even 80% in the private sector in 2004. This increasing CS rate has stimulated an interest in the potential long-term morbidity of CS scars. The etiology of niche related postmenstrual spotting and pain has not been fully elucidated. They are thought to be caused by retention of menstrual blood in a niche, which is intermittently expelled after the majority of the menstruation has ceased. Blood can also accumulate, if fibrotic tissue in the myometrium at the site of the caesarean scar may impair

normal contractions and as a consequence the drainage of menstrual flow. Additionally, newly formed fragile vessels in the niche may also attribute to the accumulation of blood or fluid in the niche or uterine cavity due to a constant low production of in situ leakage of blood and fluid. This is supported by the presence of free blood cells in the endometrial stroma, suggesting recent haemorrhage and hysteroscopic evaluations where small vessels in the majority of patients are seen. In this presentation, I will discuss why do niches (CS defects) form, and whether and why they are a problem.

THERE SHOULD NOT BE A FREEZE ONLY STRATEGY FOR ALL

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Since its successful introduction in 1978, in-vitro fertilization (IVF) has traditionally been performed using fresh embryo transfer. In the first decades of IVF, ovarian hyperstimulation allowed the development and transfer of multiple embryos. As IVF technology improved, the number of multiple pregnancies increased, leading to a gradual reduction in the number of embryos transferred.² Embryo freezing was performed to allow subsequent transfer if the fresh cycle was unsuccessful. Small randomized trials suggested that freezing all embryos in a fresh IVF cycle followed by thawed frozen transfer in subsequent cycles might improve pregnancy rates. Also, it has been suggested that pregnancies occurring after frozen embryo transfer are associated with fewer complications (e.g. lower rates of antepartum hemorrhage) and better neonatal outcomes, including higher birth weight and lower risk of perinatal mortality.³ Frozen embryo transfer has become increasingly common, with the number of frozen cycles increasing in many countries. I will discuss studies comparing the effectiveness of a freeze-only and subsequent frozen embryo transfer strategy to conventional fresh embryo transfer (with remaining embryos frozen) in infertile women.

TRADITIONAL OIL-BASED HSG EXPLOITING ITS THERAPEUTIC ADVANTAGE

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Infertility defined as the inability to conceive within 1 year of unprotected intercourse is one of life's great misfortunes, which affects 1 out of 6 couples trying to get pregnant. Testing for tubal patency is part of the basic fertility work-up, and still in many hospitals hysterosalpingography (HSG) is used. We recently showed in our landmark trial published in the New England Journal of Medicine that in infertile women undergoing HSG tubal flushing with oil-based contrast medium (Lipiodol®) resulted in more ongoing pregnancies than with the use of water-based contrast medium (Telebrix Hystero®) (Dreyer et al, 2017). I will discuss the latest evidence of the use of tubal flushing in infertility.

Dreyer K, van Rijswijk J, Mijatovic V,..... Hompes PGA, Mol BWJ. Use of oil-based contrast medium compared to water-based contrast medium in infertile women undergoing hysterosalpingography (H2Oil study): a randomised controlled trial. N Engl J Med 2017; 376:2043-205



WHAT IS THE EVIDENCE THAT ANY TOCOLYTICS WORK?

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Worldwide, the calcium channel blocker nifedipine is used to treat threatened preterm labour, but sound evidence to support this practice is lacking. Nifedipine is not registered for use in pregnancy, and its manufacturer, Bayer, does not want to take any responsibility for its use in pregnancy. There is a possibility that this widely practiced management, which is advocated in State guidelines, could even be harmful. Case reports have described fetal death after maternal hypotension following administration of Nifedipine (Van Veen 2005). A large cohort study confirmed more hypotension after tocolysis with nifedipine as compared at the oxytocin antagonist atosiban (De Heus 2009). More importantly, a recent randomised clinical trial directly comparing nifedipine to atosiban in women with threatened preterm labour (510 women) showed the composite neonatal outcome to be comparable (14% versus 15%, RR 0.91, 95% CI 0.61–1.37), while the perinatal mortality rate was doubled after nifedipine (16 (5%) versus 7 (2%); RR 2.20, 95% CI 0.91–5.3) (Van Vliet 2016). In view of the frequent clinical problem and the use of barely evaluated tocolytic drug nifedipine, that might be either beneficial or harmful for the children involved, there is a need for randomised clinical trials on the subject.

van Veen AJ et al. [Severe hypotension and fetal death due to tocolysis with nifedipine](#). *BJOG*. 2005;112:509-10.

De Heus R, et al. [Adverse drug reactions to tocolytic treatment](#) *BMJ* 2009;338:744.

Van Vliet E. [Nifedipine versus atosiban for threatened preterm birth \(APOSTEL III\): a randomised trial](#). *THELANCET-D-16-00986R1* Online March 1, 2016.

SELF-ORGANISATION OF THE HUMAN EMBRYO IN THE ABSENCE OF MATERNAL TISSUE

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Human embryogenesis follows a series of coordinated and conserved cell fate specification events. Upon implantation on day 7, the three cell lineages forming the human blastocyst – the embryonic epiblast and the two extra-embryonic tissues hypoblast and trophoctoderm – undergo major developmental changes. This time period represents one of the major causes of pre-clinical miscarriages due to failure of the embryo to progress through development. Despite its key importance, we lack major understanding of the molecular and cellular mechanisms governing this essential stage. Using our recently developed method to culture human embryos beyond implantation (Deglincerti et al., 2016; Shahbazi et al., 2016) in combination with single cell RNA sequencing, we have

constructed a molecular map of the human pre-gastrulation embryo at day 9 and day 11 of development. Through this analysis, we were able to identify a subset of hypoblast cells that expressed BMP, WNT and NODAL antagonists, reminiscent of factors secreted by the anterior-visceral endoderm of pre-gastrulation mouse embryos. Their unequal distribution within the embryo, enriched at one end, suggests that these cells may constitute a localised signalling centre for symmetry breaking and specification of the anterior-posterior axis of the human embryo. Furthermore, we unveiled key signalling interactions between epiblast and hypoblast cells. As human embryos develop beyond day 7, epiblast cells undergo a pluripotent state transition, and upregulate the expression of fibroblast growth factor (FGF) ligands, which act both in an autocrine and a paracrine manner. We found that FGF signalling is required to preserve both epiblast and hypoblast cells beyond the blastocyst stage. Our study provides the first map of cell types and cellular interactions of the pre-gastrulation human embryo.

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REGULATION OF PHYSIOLOGICAL REPRODUCTIVE LIFESPAN AND FEMALE FERTILITY

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Variation in reproductive lifespan and female fertility have implications for individual health, population size and ageing. Fertility declines well before general signs of menopause and is also adversely affected by common reproductive diseases, including polycystic ovarian syndrome (PCOS) and endometriosis. There is substantial genetic variation for common traits associated with reproductive lifespan and for common diseases influencing female fertility. Progress in high-throughput sequencing and genome-wide association studies (GWAS) have transformed our understanding of common genetic risk factors for complex traits and diseases influencing reproductive lifespan and fertility. The data emerging from GWAS demonstrate the utility of genetics to explain epidemiological observations, revealing shared biological pathways linking puberty timing, fertility, reproductive ageing and health outcomes. The observations also identify unique genetic risk factors specific to different reproductive diseases impacting on female fertility. Sequencing in patients with primary ovarian insufficiency (POI) have identified mutations in a large number of genes while GWAS have revealed shared genetic risk factors for POI and ovarian ageing. Studies on age at menopause implicate DNA damage/repair genes with implications for follicle health and ageing. In addition to the discovery of individual genes and pathways, the increasingly powerful studies on common genetic risk factors help interpret the underlying relationships and direction of causation in the regulation of reproductive lifespan, fertility and related traits.



DEBATE: OVARIAN STIMULATION MORE OR LESS? LESS IS MORE

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Not every woman undergoing IVF requires ovarian stimulation. However, controlled ovarian stimulation to achieve multiple follicle development is an integral part of IVF treatment for most women. There is an on-going debate about optimising short and long-term health outcomes for women and babies in IVF. There is an urgent need to reduce the cost and burden of IVF treatment for women. The conventional IVF protocols can be complex, aggressive and unfriendly with treatment lasting up to 4 weeks and involving pituitary downregulation followed by higher doses of daily stimulation. As a result, many women experience considerable discomfort. Milder stimulation approaches fit within women's menstrual cycles and are associated with less physical and emotional burden and drop-outs from treatment. The primary aim of mild stimulation is to provide a more physiological approach with the collection of fewer but mature oocytes of higher quality. Studies have shown that this method may be beneficial for oocyte/embryo quality and endometrial receptivity. The effect of high stimulation on intrafollicular and endometrial physiology and potential epigenetic errors in oocytes and embryos is already known. The adverse effects of high response and high oestradiol levels on adverse perinatal outcomes are extensively studied. Knowing the lower biological efficiency of oocytes with conventional stimulation protocols and in the context of improved laboratory performance, the need for collecting many oocytes per cycle will be debated. The efficiency of mild stimulation in normal and high responders including cumulative live birth rates will be discussed. The use of high stimulation for IVF in poor responders will be questioned in the light of recent ASRM recommendation to use mild stimulation protocols in such women. There has been a societal field change in the need for and availability of IVF to an increasing spectrum of healthy women including same sex couples, single women, as well as for women requesting egg freezing and those who wish to donate eggs. These women are not infertile yet frequently exposed to high stimulation and its associated burden of treatment. Inequality of IVF provision is also affected by high drug costs making IVF available only to the very affluent in many countries. I will also demonstrate that aggressive ovarian stimulation to collect a large number of oocytes with an aim to "freeze all embryos (FAE) is neither a solution for all women nor in line with delivering a safe and successful IVF-ET cycle of treatment. The concept of FAE lacks proper evaluation in "public healthcare" settings. The overwhelming evidence for safety, reduced cost and burden of treatment combined with its efficiency in achieving equivalent success rates make mild stimulation for IVF a better approach for women undergoing IVF treatment.

USE OF SOCIAL MEDIA PLATFORMS TO INFORM THE PUBLIC ABOUT MALE REPRODUCTIVE HEALTH ISSUES

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The communication of science and healthcare messages has changed enormously in the last 25 years. Whilst this has largely been helped by the technological development and accessibility of the internet (>4 billion) and the number of social media users (>3 billion), there has also been critical shifts in our understanding of how such topics are best communicated. Historically, the communication of science and healthcare messages has been carried out from the

perspective of the "deficit model". This proposes that the public are in some way deficient in key information and that if only this were rectified, and their knowledge gap filled by the provision of more information, their attitude, belief or behaviour would automatically change as a consequence. This is what happens through traditional media outlets (e.g. TV, Radio, Newspapers, etc) as well as the traditional lecture style of presentation: the flow of information is from the expert to the audience. However, we now know that the communication of science and medical information to the public is more complex than this and that generally this approach does not work (although professionals usually feel very comfortable in doing it!). Today, it is generally considered that models involving "consultation" or "engagement", where the public are active participants in regular dialogue and debate, are better able to influence opinion and behaviour. Thus, the very nature of social media platforms (e.g. Facebook, Twitter, Instagram, YouTube) which offer the opportunity for two-way dialogue have a significant advantage. Unfortunately, studies on how social media is better able to communicate information about male reproductive health are limited, but we do know that men would generally like more information (and medical professionals and online sources are their preference). This is supported by data from the recent Wellcome Trust Global Monitor Report 2018 which show across 140 countries that the majority of people have an interest in learning more about science and healthcare and, moreover, there is a high degree of trust in the information given by scientists and health professionals. Therefore, there is much that scientists and healthcare professionals can do in this space. However, would-be social media users should be aware that there are country and age-specific preferences in social media use. Therefore, it is important to work out in advance the optimal social media platform(s) to be used to reach the target audience.

DEVELOPING NEW GUIDELINES FROM A POI REGISTRY

Nick Panay, UK

Context: Premature ovarian insufficiency (POI) remains poorly understood and under researched. Guidelines from ESHRE, IMS, EMAS and NICE UK have been developed using data largely from observational and short term RCTs. The POI registry <https://poiregistry.net> was developed at Imperial College London (ICL), UK using a British Research Council grant to collect national/ international data in an effort to avoid fragmented research, improve our understanding of this important disease and to inform new guidelines.

Objective: Retrospective and prospective registry analysis of women with POI to update evidence-based management guidelines for POI. **Methods:** Data collected on women diagnosed with POI < 40 years were entered onto an online registry using the semantic web. The data were extracted and analysed at ICL by patient ages, etiology, ethnicity, time to diagnosis, symptom profile and bone mineral density (BMD).

Results: More than 60 centres have registered to enter data globally. Many centres are in the UK but also include investigators in Australia, Canada, Chile, Italy, Russia, Spain and South Africa. Retrospective (legacy) data have been entered for 484 women and prospective data for 343 women with POI thus far. A further 400 patients have been entered into a Chinese translation of the registry at Beijing O & G Hospital, Capital Medical University and will be uploaded. Data include demographics, diagnosis, presentation, management, fertility and health outcomes e.g. Bone Mineral Density (BMD). Delay to diagnosis is associated with progressively lower BMD. Collaborative work is planned to facilitate biobanking for genetic and biomarker analyses. These data will be used to revise and update guidelines on



evidence-based POI management. **Conclusions:** The POI registry has proved successful given the number of centres and patients registered thus far. By encouraging more healthcare professionals to engage with data collection, we aim to optimize the quality and quantity of data. Long term successful collaboration with our international colleagues using the POI registry will facilitate the development of new guidelines to optimise the diagnosis and treatment of POI.

TESTOSTERONE: THE NEED FOR A NEW CONSENSUS **Nick Panay, UK**

The first international consensus statement on the use of testosterone in the treatment of women, led by the International Menopause Society (IMS), has been published in four leading international medical journals: *Climacteric*; *Maturitas*; *The Journal of Sexual Medicine*; and *The Journal of Clinical Endocrinology and Metabolism*. The advice has been developed by nine leading medical organisations including The International Menopause Society; The International Society for Sexual Medicine; The Federacion Latinoamericana de Sociedades de Climaterio y Menopausia; The American College of Obstetricians and Gynecologists, The North American Menopause Society, The European Menopause and Andropause Society; The International Society for the Study of Women's Sexual Health, The Royal College of Obstetricians and Gynaecologists and The Endocrine Society, and endorsed by several additional Societies. It follows years of debate regarding testosterone therapy for women and, for the first time, provides agreement from experts about the known benefits and potential risks of testosterone therapy for premenopausal and postmenopausal women. The consensus specifically states that testosterone can be effective at improving sexual wellbeing for postmenopausal women with hypoactive sexual desire dysfunction (HSDD). Benefits include improved sexual desire, function and pleasure, together with reduced concerns and distress about sex. There are insufficient data to support the use of testosterone for the treatment of any other symptom or clinical condition, or for disease prevention. The international panel is calling on industry, researchers and funding organisations to recognise the need for further research into testosterone therapy for menopausal women and the development and licensing of products indicated specifically for women. Translated versions of the consensus statement will be available on the International Menopause Society website.

Visit <https://www.imsociety.org> to find out more [Link to further information].

WE NEED RANDOMIZED CONTROL TRIAL FOR VULVO-VAGINAL LASER

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We must clearly increase the number of randomized and control group clinical studies, for many reasons, which I will discuss:

1. The first and obvious one is that there are very few studies, and also with a small and short number of patients.
2. One of the main problems that exist today is the lack of protocols for the different indications and for the different characteristics of the patients. In addition, there are no comparisons between the use of CO2 or erbium lasers, and even the indications and specifications are according to the type of laser in particular. Today it is mandatory to know in detail, the possibilities of power, energy, creep pixel density and number of pulses your laser has. However, there are no

specifications on how to identify each patient, depending on age or response characteristics. And what is worse is that what is published with another brand of laser device, does not work for yours.

3. Another key point for which more RCTs are needed is that we do not know when the vulvo-vaginal laser option is better than other options. Let's take the example of vulvo-vaginal atrophy. What is better?

- Use laser or radiofrequency
- Use laser or local estrogens
- Use in combination

Only with RCT will it be possible to answer.

4. Another question that arises and can be answered with future studies, is whether it would be good to apply before or after lasers, PRP or local estrogens or other products, to try to improve the fibroblasts of the lamina propria or try to maintain and improve its collagen production. That is, can we achieve better results if we somehow increase the capacity of fibroblasts?

5 Of course you cannot talk about other indications such as lichen sclerosus or fissures etc., without proper studies.

6 I will mention other fundamental questions that must be answered, and the only way would be with RCT

Is its long-term use safe?

Why are there NO responders?

Subgroups of best responders, for example for stress urinary incontinence?

I do not want to conclude without mentioning that the results that exist are optimistic, but to understand and improve future perspectives we must answer the questions. In the same way that we do not know with certainty, the contraindications or the number of sessions needed in a person who does not respond, there will surely be new possibilities in the future, since you can use the laser to prevent vulvovaginal atrophy or urinary incontinence.

I think it is time for clinical research and answering the questions of the clinicians

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SERMs are compounds with a molecular structure different from that of steroids. They share their selective binding to estrogen receptors (ER) with steroids and produce an estrogen agonist or antagonist effect depending on the target cell and hormonal environment. They have been developed with the aim of producing specific positive estrogenic effects on some target tissues, but with negative or neutral estrogenic effects on other tissues. They were first known as anti-estrogens and developed for the treatment of breast cancer. Today, the four-best known SERMs are tamoxifen, raloxifene, bazedoxifene and ospemifene, tamoxifen currently being used in the prevention and treatment of breast cancer, both raloxifene and bazedoxifene for the treatment of osteoporosis, and ospemifene for dyspareunia or vulvovaginal atrophy. Therefore, the main aim of the pharmacological development of SERMs is to increase the benefit/risk ratio compared to estrogen therapy in the prevention and treatment of several highly prevalent, chronic, postmenopausal diseases that are associated with this state of estrogen. There is an estrogenic agonist effect that may be beneficial either on the bone or on the vagina and which appears to be an effect dependent on the greater or lesser potency of the SERM (in postmenopausal women). The SERMs assessed appear to have antiestrogenic or neutral effects on the breast; tamoxifen, raloxifene, and lasofoxifene have shown antiestrogenic effects in clinical trials; and bazedoxifene and



ospemifene have shown antiestrogenic effects in preclinical trials but appear to be neutral in clinical trials to date. Most SERMs have been associated with a slightly increased risk of venous thromboembolism (VTE). The cardiovascular and cardiometabolic effects of SERMs in clinical trials appear to be positive or neutral. The adverse effects of tamoxifen, relative to other SERMs, on the endometrium are well documented. We currently have extensive experience concerning the risks and benefits of SERMs. Therefore, we know the benefits that are ideally required of a SERM, such as those that help in the prevention and treatment of osteoporosis, those that help in the primary and secondary prevention of breast cancer and those that may represent added cardiovascular benefits. A new SERM, Ospemifene belongs to the family of triphenylethylenes. It is a biologically active metabolite of toremifene (desamino-hydroxy-toremifene). Ospemifene has been assessed for the treatment of postmenopausal women with vulvovaginal atrophy in two 12-week phase 3 trials, two long-term safety extension trials, and one 52-week safety and efficacy trial. Compared to placebo, ospemifene (30 and 60 mg) significantly increased the percentage of surface cells and decreased the percentage of parabasal cells (improved maturation rate) at weeks 4 and 12. A significantly greater reduction in vaginal pH was also observed in the ospemifene group compared to the placebo group at weeks 4 and 12 for both doses of ospemifene. After 12 weeks of treatment, ospemifene (30 and 60 mg) significantly decreased the vaginal dryness symptoms rating compared to placebo. Also, 60 mg ospemifene significantly reduced the symptom rating of the women who reported dyspareunia as the major symptom in comparison to placebo. We can conclude that it is the first non-hormonal oral alternative for vulvovaginal atrophy. It is a selective estrogen receptor modulator (SERM) that selectively exerts agonistic effects on vaginal tissue. 60 mg ospemifene has been shown to reduce symptoms of dyspareunia and vaginal dryness significantly compared to placebo and to be safe at 52 weeks. Now, thanks to ospemifene, we can add treatment of dyspareunia and vulvovaginal atrophy. We also know the possible side effects to be avoided: the risk of endometrial cancer with tamoxifen, and venous thrombosis and the possible increase in hot flushes with all SERMs. In the short term, it does not seem realistic to expect a SERM to be able to meet all requirements. But each SERM that appears provides more information on efficacy and safety. A new approach to hormone therapy is to combine an estrogen with a SERM in order to achieve all the positive effects of estrogens and even increase them and avoid their negative effects by using a SERM, and this combination is called the Tissue Selective Estrogen Complex (TSEC). The purpose is to decrease hot flushes, prevent and treat vulvovaginal atrophy, and prevent bone loss, without stimulating the breast or endometrium. Bazedoxifene in combination with conjugated estrogens in doses of 0.45 or 0.625 mg significantly reduces vasomotor symptoms, improves vaginal symptoms, and increases bone mineral density in the lumbar spine and hip. It is clear that this is a promising treatment for both vasomotor symptoms and the prevention of osteoporosis. Meanwhile, the rapid developments in the molecular biology of the ER activation cascade, together with advances in genomics and chemistry and proteomics, makes us optimistic about the future of different estrogen modulators in the medium term.

CHROMOSOMAL MOSAICISM IN HUMAN BLASTOCYSTS: THE ULTIMATE CHALLENGE OF PREIMPLANTATION GENETIC TESTING?

Mina Popovic, Belgium

Human preimplantation embryos are inherently prone to chromosomal instability. As such, preimplantation genetic testing for aneuploidies (PGT-A) has become widely implemented in conjunction with assisted reproduction, with an aim to improve embryo selection. At present, blastocyst culture followed by trophectoderm (TE) biopsy of 5-10 cells and next generation sequencing (NGS) have become the preferred techniques for embryo screening. However, higher sensitivity has led to an increase in reports of embryo mosaicism, chromosomally distinct cells within a single TE biopsy. This has raised substantial controversy surrounding the diagnostic accuracy of PGT-A, as the presence of mosaicism may ultimately undermine the principle strategy of improved embryo selection. As the biological significance of chromosomal mosaicism remains uncertain, mosaic embryos are often classified as clinically unsuitable. To define the distribution and prevalence of mosaicism in human blastocysts, we used NGS to evaluate the ICM and multiple TE biopsies obtained from the same embryo (n=58). We evaluated blastocysts with an unknown genetic profile, as well as those previously diagnosed as abnormal or mosaic following PGT-A. Overall, we uncover chromosomal mosaicism in up to 38% of the embryos analysed, suggesting that human blastocysts harbour a higher rate of chromosomal heterogeneity than anticipated. Nevertheless, we reveal high sensitivity in the context of PGT-A, as uniform abnormalities in the ICM were accurately diagnosed within the TE in 91% of cases. However, strikingly, a normal ICM was detected in 23% of embryos for which at least one TE sample revealed a mosaic chromosomal aberration. Moreover, we could not confirm the original mosaic diagnosis in 50% of the pretested embryos. Therefore, attesting to low diagnostic specificity, a considerable proportion of viable blastocysts are potentially being classified as clinically unsuitable, ensuing the diagnosis of mosaicism. The transfer of mosaic blastocysts, however, continues to raise an uncomfortable uncertainty. Current reports suggest that mosaic embryos may lead to healthy live births, but also result in poorer clinical outcomes compared to euploid blastocysts. To assess the fate of euploid, chromosomally abnormal and mosaic blastocysts during perimplantation development (n=80), we developed an optimised system for the extended *in vitro* culture of human embryos up to 12 days post fertilisation (dpf). We compared original TE biopsy profiles to both culture outcomes and the chromosomal status of the embryos during later development. Viable day 12 outgrowths were predominantly generated from euploid blastocysts and those diagnosed with trisomies, duplications or mosaic aberrations. Conversely, monosomies, deletions and more complex chromosomal constitutions, significantly impaired *in vitro* development to 12 dpf. Nine outgrowths were further separated into two or more portions corresponding to ICM and TE-derived lineages. When compared to the original biopsy, we determined 100% concordance for uniform numerical aneuploidies, both in whole outgrowths, as well as ICM and TE-derived portions. However, uniform structural variants were not always confirmed later in development. Furthermore, 58% of embryos originally diagnosed with chromosomal mosaicism remained viable at 12 dpf, of which 71% presented with euploid profiles in both embryonic lineages. Overall, our findings support the high clinical predictive value of PGT-A for diagnosing uniform abnormalities, as well as euploid chromosomal constitutions. However, while excluding mosaic embryos may result in an improved clinical pregnancy rate per transfer for the ART centre, it may do so at the expense of the individual patient.



To preclude the inadvertent classification of viable embryos as clinically unsuitable, mosaic blastocysts may be considered as a third diagnostic category in PGT-A. Yet, it must be acknowledged that a portion of mosaic blastocysts will inevitably lead to negative clinical outcomes. While further outcome data may contribute to individualised treatment strategies, at present, the potential risks must be carefully weighed against the possibility of discarding viable embryos. Nevertheless, greater standardisation amongst clinics will be paramount for achieving consistency and substantiating relevant findings. As our understanding of blastocyst mosaicism continues to advance, clinical management and counselling strategies must also concomitantly improve. Diligently informing patients about the risks, challenges and limitations of PGT-A remains our utmost responsibility.

ENDOMETRIAL RECEPTIVITY TESTING: CAN THE MOST RELIABLE TEST STAND UP?

Samuel Santos-Ribeiro, Belgium

ART have developed vastly since the first live birth following IVF in 1978. This multidirectional improvement led to the optimisation of ovarian stimulation and to a better assessment of embryo quality, ultimately causing a steady increase of live birth delivery rates until the late 1990s. Despite that, livebirth rates have remained relatively low and, since the year 2000, rather stagnant. Many authors have postulated whether the supraphysiologic milieu of hormones produced during ovarian stimulation (OS) may affect endometrial receptivity (ER) and hinder both pregnancy rates and neonatal outcomes. More specifically, the abnormal production of progesterone (P) during the later stages of the follicular phase (late-follicular elevated progesterone, LFEP) has been associated with both an abnormal endometrial gene expression and an atypical epigenetic profile in the luteal phase. This has led many fertility centers to change their clinical practice and to measure serum P levels on the day of hCG administration, adopting a freeze-all strategy whenever LFEP occurs. Nonetheless, the everyday use of a universal LFEP threshold as an ART outcome predictor has proven to be harder than originally expected, owing mostly to the fact that a) excessive P production is frequently encountered in good-prognosis women with an otherwise healthy multi-follicular response and b) it seems to be non-linearly related with pregnancy outcomes. Furthermore, the universal use of the threshold of >1.50 ng/mL for LFEP on the day of hCG administration (which is the most frequently used cut-off to define LFEP in daily clinical practice) has been challenged by previous studies which have proposed that the detrimental effect of circulating P may be already set into motion below this arbitrary cut-off. Many investigators have attempted to enhance the predictive capacity of this single P measurement by using ratios such as P-to-follicle, P-to-oocyte and P-to-estradiol. However, such indexes have failed to perform superiorly, thus limiting their routine clinical use, an observation that may have led some to propose clinicians to disregard endocrine monitoring of P during OS altogether. The knowledge that OS hinders ER has led to multiple efforts to adequately assess the endometrium prior to embryo transfer. These research groups stem from many scientific fields, including immunology, histology, endocrinology, microbiology, proteomics and genomics. Amongst these, the most notable was the development of customized microarrays that analyse the transcriptomic signature of freshly biopsied secretory endometria have recently been developed. By analysing the endometrium's expression profile, these microarrays can accurately discriminate between receptive and non-receptive uteri. Although this innovative approach has an enormous potential, its use as a decision-making tool during ART has been hampered thus far by two factors: a)

criticism stating that the increased pregnancy rates following the diagnostic biopsy may be due to the effect of endometrial scratching, and b) a biopsy during the secretory phase induces endometrial injury which, although temporary, effectively precludes the transfer of an embryo during that same window of implantation. During this lecture we will review the increasing evidence around the role of the endometrium during IVF and evaluate the existing evidence around the current tests available to diagnose ER abnormalities.

FREEZE ONLY STRATEGY FOR ALL?

Anja Pinborg, Denmark

Due to improved freezing techniques including vitrification and blastocyst transfer the number of freezing embryo transfer (FET) cycles is still increasing and has in the US exceeded the number of fresh cycles, while in Europe one third of the cycles are FET.¹⁻² Growing clinical evidence supporting the justification of further implementation of the freeze-all strategy in standard ART care has emerged in recent years as pregnancy and live birth rates appear to be steadily approaching those seen in fresh cycles.¹⁻² Further benefit of the freeze-all strategy maintains with the possibility of adapting to the full "OHSS-free" strategy enabled by use of GnRH agonist trigger in the FET cycles, practically eliminating the risk ovarian hyperstimulation syndrome (OHSS) in FET cycles.³ Recent large Asian randomized controlled trials have shown benefit of a freeze-all strategy in women with PCOS and high responders, while there are controversies into whether this strategy is beneficial for patients with an ovarian reserve within the normal or lower range.⁴⁻⁷ Recent large retrospective cohort studies from Australia and the US show no benefit from freeze-all except from patients with a high ovarian response.⁸⁻⁹ Another aspect is the time to pregnancy or livebirth which is crucial for our patients, however patient's attitudes seem to be positive towards a freeze-all strategy, if there is a risk of OHSS and if the information on a possible postponed embryo transfer is provided timely at the start of the stimulation and explained as a strategy to escape the high risk for the women.¹⁰ Women are more reluctant towards a freeze-all strategy while men are less likely to accept health risks on their female partners.¹⁰ With the current knowledge there seem to be no indication for freeze-all to all rather there should be specified indications for a freeze-all strategy which should include strict transfer postponement criteria in case of an ovarian hyper response herein patients with more than 15 oocytes at OPU and more than 18 follicles of ≥ 11 mm at the day of ovulation trigger.¹¹ In case of cycle segmentation due to risk of OHSS ovulation trigger should be performed with a GnRH agonist to avoid OHSS. Other indications for freeze-all are endometrial pathology, day 6-culture, PGT and hydrosalpinges. Time to pregnancy and live birth is crucial to patients and whether to transfer in the cycle immediate after the stimulated cycle or whether to postpone two cycles are being discussed. Recent retrospective studies in artificial cycle FET have showed no difference in success rates in immediate FET versus postponed FET, but literature is still lacking in modified natural cycle or natural cycle IVF.¹²⁻¹³ Moreover, research on the optimal FET cycle is urgently needed.¹⁴ Although babies born after FET have a lower risk of preterm birth, low birth weight and being small-for-gestational age, recent studies have shown that FET babies are more likely to be large-for-gestational age and preeclampsia and hemorrhage is more frequent in FET pregnancies.¹⁵⁻¹⁶ This seems to be most pronounced in artificial cycle FET programmed with estradiol and progesterone.¹⁷⁻¹⁸ Altered maternal vascular health in early pregnancy and increased risk of preeclampsia have been shown in pregnancies with absence of a corpus luteum.¹⁹⁻²⁰ To conclude Freeze-all for all



should not be the future IVF strategy rather GnRH agonist trigger and cycle segmentation should be performed in women at a high risk of developing OHSS and by the other indications listed above. Hence, eliminating the risk of OHSS and keeping the same live birth and cumulative live birth rates.

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THE BRAVE NEW WORLD OF ART: GENOME EDITING, THIRD-PARENT CONCEPTIONS AND TRANSGENERATIONAL IMPLICATIONS

Gerald Schatten, USA

Designer Babies walk among us... And some believe that they have been walking among us for the past three decades. The techniques for editing the human genome – both nuclear and mitochondrial DNA – are accelerating at stunning paces with near perfect accuracy and efficiency, simplicity, swift speeds and at affordable costs – and optimizations are reported nearly weekly. These newest approaches for the application of CRISPR/Cas9 and newer methods will be introduced and then medical applications for trying to avoid devastating human diseases and disorders will be considered. Last December, Dr. He Jiankui claims that he implanted human embryos modified with CRISPR to conceive twin girls appears to have been verified by Chinese authorities, though the scientific evidence has not yet been reported. As such, it may be premature to conclude authenticity. Previously, claims of cloned humans have been shown to be false. Certainly, with the development of so-called 'mitochondrial replacement therapies,' whether for the treatment of maternal mitochondrial DNA mutations or unrelated infertility, the offspring from these 'three-parent' conceptions walk among us. Mitochondrial Replacement Therapies (MRT) have been proposed for the treatment of couples in whom the woman has mitochondrial DNA mutations. While approved in the UK for this special situation, it has not been approved in the US or most other countries. Nuclear DNA inheritance differs markedly from mitochondrial DNA transmission. MRT has succeeded as reported in a publication entitled: "Live birth derived from oocyte spindle transfer to prevent mitochondrial disease" from Dr. John Zhang's team in Mexico and New York. We will consider the roles of mitochondria within gametes and embryos, and whether mitochondrial augmentation or supplement is warranted for therapies in ART clinics. The thorny question as to what knowledge must be generated to condone designer babies attempts will be examined both dispassionately and passionately. The techniques for editing the human genome, approaching near perfect accuracy, are accelerating swiftly at stunning paces with and efficiency, simplicity, and at affordable costs. These newest approaches will be reviewed and then thorny medical applications for trying to avoid devastating human diseases and disorders will be considered, as well as equally compelling bioethical, evolutionary, scientific and societal concerns about genetically enhanced offspring. This lecture will conclude with an informed strategy for **SAFEGUARDING ART AND GENOME EDITING**. *Supported by the US National Institutes of Health.*

HOW MANY EGGS DO WE NEED FOR PRESERVING FERTILITY?

Nathalie Sermondade, France

While advances in the management of cancer have led to an improvement of survival rates, gonadotoxic chemotherapy may impair the reproductive potential of survivors. Fertility preservation techniques have been developed to improve young women' chances of becoming genetic mothers after healing. Among them, the most established is Controlled Ovarian Stimulation followed by cryopreservation of mature oocytes. Although data from *In Vitro* Fertilization indicate that the oocyte number is a key point for success, the optimal number of frozen oocytes for expecting a live birth remains poorly known. Some large registry analyses supported that live birth rates plateau when 10 to 15 oocytes are retrieved. However, some of them did not consider cumulative live birth rates, obtained after the subsequent transfer of all fresh and



frozen/thawed embryos from a single ovarian stimulation and oocyte collection. Other studies demonstrated that, despite the plateau reached for fresh live birth rates between 10 and 15 oocytes, cumulative live birth rates may continue to increase with the number of oocytes harvested, indicating that higher oocyte yields lead to an increased likelihood of cumulative live birth. Female age constituting a major oocyte quality factor, it has also been recently suggested that larger oocyte yields would be more beneficial in younger women, with an increase in cumulative live birth rate per additional oocyte being lower in the older age groups. Nevertheless, those results were obtained with fresh oocytes, and the generalization to frozen oocytes can be questioned. Indeed, although this strategy has strongly increased in recent years, little evidence about the outcomes of oocyte vitrification cycles is available in the literature. In particular, reports about using vitrified oocytes in cancer patients are scarce with limited long-term follow-up data, emphasizing that the competence of oocytes retrieved in this context remains poorly known. This situation may be further compounded when there is a very limited time frame available, as often occurs in cancer situations, limiting the possibility to repeat the fertility preservation procedures in order to reach optimal cryopreserved oocyte numbers. In those cases, a combination of techniques could be proposed as an option to improve fertility preservation effectiveness by increasing the total number of cryopreserved gametes. In total, in a context of growing interest and demand in fertility preservation, it is crucial for reproductive medicine providers to be conscious of success rates and limits of oocyte freezing procedures, in order to provide women with proper and reliable counselling.

gSEQ FOR PGT-A

Noora Sirkkanen

Chief Technology Officer, Reprocare Genetics Scandinavia

Preimplantation Genetic Testing for Aneuploidy (PGT-A) has demonstrated clinical benefit in multiple randomized controlled trials. Contemporary methods of PGT-A involve next generation sequencing (NGS) with whole genome amplification (WGA). We have developed a new method of PGT-A that overcomes limitations of WGA based strategies. gSEQ not only evaluates chromosome copy number, including mosaicism, and segmental aneuploidy, but also provides genotype information through proprietary machine learning algorithms. The additional feature of genotyping data analyses improves PGT-A accuracy through allele-ratio assessment and allows for detection of contamination, triploidy, and relatedness, as well as independent confirmation of aneuploidy predictions. gSEQ provides increased sample processing throughput without compromising accuracy and at a cost significantly lower than WGA-based commercial PGT-A kits.

LAPAROSCOPIC CERCLAGE

Thiers Soares Raymundo, USA

With the advance of laparoscopic surgery, several minimally invasive cervical cerclage techniques have been described and the outcome of those has been promising. Experts suggest that a transabdominal cerclage is warranted in women with a prior failed transvaginal cerclage and those with cervical or anatomical issues precluding a transvaginal cerclage placement. It is usually placed between 12 and 14 weeks gestational age, after the prenatal screening window, based solely on prior adverse obstetric outcomes. Given the morbidity associated with multiple preterm deliveries, substantial efforts were made to incorporate ultrasound technology to identify women at highest risk earlier in their obstetric history. The minimally invasive approach can be

done by laparoscopy or robotic. The suture material is a standard non-absorbable, braided polyester Mersilene tape which is also used for transvaginal cerclage. Cesarean section is necessary for the delivery after an abdominal cerclage.

REPRODUCTIVE TRACT MICROBIOME AND ITS RELEVANCE TO PREGNANCY OUTCOME AND NEONATAL/POST-NATAL DEVELOPMENT

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Advances in nucleic acid sequencing technology and bioinformatics have made it possible to interrogate the microbiota of various human cavities and organs, including the reproductive tract and reproductive tissues. Although pathogenic microbes and dysbiotic states have long been implicated in infertility and adverse pregnancy outcomes, the comprehensive characterization of the microbial communities and the presence of virulence factors in specific taxa residing in the reproductive tract was not possible until recently. Although still very much in the descriptive phase of research, investigators have attempted to characterize the vaginal, endometrial and placental microbiota and the potential contribution of microbiota from other body sites such as the oral cavity to the reproductive tract microbiome. Of particular interest has been the potential role of the microbiome in establishing a pregnancy, risk of viral infection such as HSV-2 and HIV, preterm birth, and neonatal physiology. This presentation will focus on the most studied reproductive tract microbiota, the vaginal microbiome. Although there is little doubt that pathogenic microorganisms can populate the upper reproductive tract and placenta, reports that a microbiota exists in the normal placenta and possibly the endometrium are confounded by low biomass and the potential for spurious observations due to contamination from microbial DNA at the time of collection of samples or in reagents used to process the samples. Studies of the vaginal microbiome in pregnant women have, in general, provided consistent observations that include that the vaginal microbiome becomes less complex as pregnancy advances, characterized by a lactobacillus-dominated flora. In pregnancies that are complicated by spontaneous preterm birth, the vaginal microbiota contains taxa associated with bacterial vaginosis/vaginal dysbiosis including *Gardnerella*, *BVAB1*, *Sneathia amnii*, *TM7-H1* and *Mobiluncus* among others. In our hands, the vaginal microbiota examined at 20 weeks of gestation can predict risk of spontaneous preterm birth (1). The vaginal microbial communities that populate the vagina are shaped by complex environmental factors including race/ethnicity (2), number of partners, nutrition, including vitamin D status, smoking, hygiene practices, medications and the host genome. For example, we have found that the vaginal microbiota of African-American women is significantly different than that of women of European ancestry. We have also found that vitamin D status affects vaginal microbial communities with low vitamin D associated with dysbiosis (3). Genetic variants in host anti-microbial peptide genes (e.g., defensins) also appear to play a role. Importantly, the identification of microbial taxa in the vagina is not sufficient to implicate a particular microorganism in a pathologic process. For example, sequencing the microbial genomes of isolates of *Gardnerella* revealed virulence factors in some isolated that promote cytolysis and biofilm formation, indicating that all *Gardnerella* isolates are not necessarily pathogenic. Thus, characterization of the microbiota using standard methods based on 16s rRNA sequencing may not be sufficient to identify drivers of adverse reproductive outcomes. The in-



depth characterization of the reproductive tract microbiome and reproductive outcomes may yield insight into ways in which dysbiotic states can predict the need for interventions and the type of intervention that will be most effective.

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DEBATE: ANDROGENS ARE THE VILLAIN IN PCOS PRO

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Hyperandrogenism/hyperandrogenemia are cardinal features of polycystic ovary syndrome (PCOS) that figure into most commonly employed diagnostic criteria. The androgen excess is of ovarian origin, although the adrenal cortex may also contribute increased androgens in some women with a PCOS diagnosis. Genome-wide association studies (GWAS) have identified a number of loci associated with PCOS in different populations. At least two of these loci (*LHCGR* and *DENND1A*) are associated with or implicated in increased theca cell androgen production. The bioactivity of androgens in the circulation is influenced by sex hormone binding globulin (SHBG) levels that determine the free fraction of testosterone, and SHBG production by the liver is suppressed by androgens in addition to insulin. There is evidence that elevated androgens influence weight gain and alter carbohydrate metabolism in women, features frequently associated with PCOS. Androgens have also been implicated in granulosa cell abnormalities in follicles of PCOS animal models, and neuroendocrine changes leading to altered gonadotropin secretion. Elevated testosterone levels have been discovered in female rhesus monkeys who exhibit PCOS-like characteristics. Additionally, intrauterine androgen exposure results in a PCOS-like phenotype in exposed female offspring in animal models. Drugs that increase ovarian androgen levels in rodent models (e.g., letrozole) produce a PCOS-like phenotype. Collectively, these observations suggest that androgens are major contributors to the PCOS phenotype, and possibly the pathogenesis of PCOS.

PLACENTAL MICROBIOME: WHAT DO WE KNOW, WHAT SHOULD WE KNOW?

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A report by Aagaard and colleagues published in 2014 claiming that the normal human placenta harbors a unique microbiota based on bacterial DNA sequences, with taxa most closely related to those in the oral cavity, opened up a new universe of thinking about the potential role of microbes in pregnancy outcome and fetal and neonatal health. While there have been subsequent publications consistent with the conclusions of Aagaard et al., including reports of a microbiome in amniotic fluid, there have also been recent report from at least 4 different groups that fail to identify a microbiome in the normal and preterm placentae, and conclude that positive findings noted above are most likely the result of contamination at the time of collection, or microbial DNA contamination in the laboratory or reagents used for microbiome analysis. Furthermore, placental microbiome skeptics point to the existence of germ-free animals that would presumably not be possible to generate if the placenta and amniotic fluid were populated by microbes. Although there is little doubt that pathogenic microorganisms can populate the upper reproductive tract and placenta and/or fetal membranes, proving that this is a normal phenomenon is challenging due to the low biomass and multiple opportunities for specimen contamination, detectable by the highly sensitive nucleic acid sequencing methods employed in microbiome research. Consequently, investigators have recently proposed that rigorous controls be carried out to identify sources of possible contamination and to confirm the presence of a microbiota by methods beyond the sequencing 16S rRNA including culture, quantitative PCR, meta-transcriptomics, and fluorescence in situ hybridization (1). Although, some investigators who hold to the notion that there is a placental microbiome have employed confirmatory methods and claimed success, a critical evaluation of the published findings leaves this and other investigators unconvinced by the existing data (2). Consequently, it seems fruitless to speculate at this time about the role of the placental microbiome in pregnancy beyond the investigation of microorganisms known to infect or pass through the placenta including *Listeria*, *Plasmodia*, *Treponema*, *Toxoplasma* and viruses. The evolving story of the placental microbiome, whether it exists or not, is a cautionary tale about the application of new and highly sensitive technology, and in particular the problem/challenges of low biomass.

1. Theis KR, Romero R, Winters AD, Greenberg JM, Gomez-Lopez N, Alhousseini A, Bieda J, Maymon E, Pacora P, Fettweis JM, Buck GA, Jefferson KK, Strauss JF 3rd, Erez O, Hassan SS. [Does the human placenta delivered at term have a microbiota? Results of cultivation, quantitative real-time PCR, 16S rRNA gene sequencing, and metagenomics](#). *Am J Obstet Gynecol*. 2019 Mar;220(3):267.e1-267.e39. doi: 10.1016/j.ajog.2018.10.018
2. Bushman FD. [De-Discovery of the Placenta Microbiome](#). *Am J Obstet Gynecol*. 2019 Mar;220(3):213-214. doi: 10.1016/j.ajog.2018.11.1093.

ICSI DOES NOT INCREASE THE CUMULATIVE LIVE BIRTH RATE IN NON-MALE FACTOR INFERTILITY

Elizabeth A. Sullivan, Australia

Background: Intracytoplasmic sperm injection (ICSI) is a technique developed to achieve fertilization for male factor infertility. There has been an increased use of ICSI for all causes of infertility. In Australia, the use of ICSI has increased from 57.8% in 2005 to 69.4% in 2016. Internationally, ICSI accounted for 66.5% of non-donor aspiration cycles in 2011 which was a marginal decline from 67.4% of nondonor



aspiration cycles in 2010. Cycle-based statistics show that there is no difference in pregnancy rates between ICSI and IVF in couples with non-male factor infertility. Evidence indicates that ICSI is associated with an increased risk of adverse perinatal outcomes. This presentation is based on a recently published paper which investigates if ICSI results in a similar cumulative live birth rate compared with IVF for couples with non-male factor infertility¹. **Methods:** A population-based cohort of 16716 women who had their first ever stimulated cycle with fertilisation performed for at least one oocyte by either IVF or ICSI between July 2009 and June 2015 in Victoria, Australia was evaluated retrospectively. Demographic, treatment characteristics and resulting outcome data were obtained from the Victorian Assisted Reproductive Treatment Authority. Data items in the VARTA dataset were collected from all fertility clinics in Victoria. Causes of infertility were classified by the patient's treating clinician. The pregnancy and birth outcomes following IVF or ICSI were recorded for the first oocyte retrieval (fresh stimulated cycle and associated thaw cycles) until 30 June 2018, or until a live birth was achieved, or until all embryos from the first oocyte retrieval had been used. The primary outcome was the cumulative live birth rate, which was defined as live deliveries (at least one live birth) per woman from the first oocyte retrieval. A discrete-time survival model was used to evaluate the cumulative live birth rate following IVF and ICSI. The adjustment was made for year of treatment in which fertilisation occurred, the woman's and male partner's age at first stimulated cycle, parity, and the number of oocytes retrieved in the first stimulated cycle. **Main results and the role of chance:** A total of 5809 women undergoing IVF and 10084 women undergoing ICSI had 9213 and 15292 embryo transfers, resulting in 2162 and 3605 live deliveries, respectively. In the study period, the proportion of women undergoing ICSI increased from 52.6% in 2009 to 68.0% in 2015. For couples with a known cause of infertility, non-male factor infertility (female factor only or unexplained infertility) was reported for 64.5% in the IVF group and 40.0% in the ICSI group ($p < 0.001$). About one fifth of the women (19.3% of the IVF group vs. 17.6% of the ICSI group) had 3 or more cycles during the study period. The median number of oocytes retrieved in the stimulated cycle was similar in the IVF ($n=9$) and ICSI group ($n=9$). Fertilisation rate per oocyte retrieval was higher in the IVF than in the ICSI group (58.9% versus 55.6%, $p < 0.001$). The overall cumulative live birth rate was 37.2% for IVF and 35.7% for ICSI. The overall likelihood of a live birth for women undergoing ICSI was not significantly different to those undergoing IVF (adjusted hazard ratio: 0.99, 95% confidence interval: 0.93–1.06). Among couples with non-male factor infertility, ICSI resulted in a similar cumulative live birth rate compared with IVF (AHR 1.00, 95% CI 0.90–1.12). This was consistent across all causes of infertility. **Conclusions:** This population-based study found ICSI resulted in a lower fertilisation rate per oocyte retrieved and a similar cumulative live birth rate compared to conventional IVF. These data suggest that ICSI offers no advantage over conventional IVF in terms of live birth rate for couples with non-male factor infertility.

Li Z, Wang AY, Bowman M, Hammarberg K, Farquhar C, Johnson L, Safi N, Sullivan EA. ICSI does not increase the cumulative live birth rate in non-male factor infertility. *Human Reproduction*, pp. 1–9, 2018 doi:10.1093/humrep/dey11

PROTECTING REPRODUCTIVE POTENTIAL IN OVARIAN CANCER

Catherine Uzan, France

The objective of this lecture is to present the methods and strategies of fertility preservation in young women with stage I epithelial ovarian cancer (EOC), in order to provide recommendations for clinical practice. French experts

proposed national guidelines developed with all national gynecologic societies (FRANCOGYN, CNGOF, SFOG, GINECO-ARCAGY under the aegis of CNGOF) and endorsed by INCa (French National Institute of Cancer). The PubMed database was searched for English and French language articles, between 2005 and 2017, according to predefined search equations. I will present conclusions of those guidelines with practical day life examples. Main conclusions of those national guidelines are here summarized. Young patients with stage IA EOC willing to conceive should be informed that conservative treatment (contralateral ovary and salpinx, uterus) is possible (Grade C), associated with a 6 % to 13 % recurrence risk (Grade C) on the remaining ovary. This conservative surgical treatment includes adnexectomy, peritoneal and lymph node staging for all subtypes, and additional endometrial curettage for endometriosis and mucinous subtypes (Grade C). In case of positive staging conservative treatment is not possible. In case of mucinous EOC with an infiltrative pattern, lymph node staging is not necessary. Multidisciplinary analysis (including oncologists and reproductive medicine specialists) of the risk-benefit balance for a conservative surgery is recommended and must rely on a complete final pathology report (Grade C). No recommendation on bilateral adnexectomy and uterine conservation to allow pregnancy using egg donation can be provided in case of low-grade stage IA EOC, in the absence of data. Bilateral adnexectomy and uterine conservation to allow pregnancy using egg donation can be offered in case of serous, mucinous or endometrioid high-grade FIGO stage IA or low-grade FIGO stage IC1 or IC2 EOC (Grade C). Preservation of the uterus and contralateral ovary and fallopian tube can be discussed with a specialized rare ovarian tumors multidisciplinary staff in case of clear cell stage I EOC.

ARE WE OVERUSING IVF?

Fulco van der Veen, Netherlands

Louise Brown, the first IVF baby was born 25 July 1978. She was immediately called Superbabe by the media since her mother, Lesley, was sterile after several attempts of tubal surgery and would never have conceived, had it not been for the groundbreaking pioneering work of Edwards and Steptoe. Things have changed since then. The use of IVF is no longer restricted to tubal blockage, but has expanded to male infertility, unexplained infertility, age related infertility, anovulation and endometriosis; in fact, to infertility in the broadest sense. It may be initiated as primary treatment or as treatment of last resort. This has led –over time– to a steady increase of the number of treatment cycles worldwide. The evidence generated by RCTs underpinning these “newer” indications is weak to absent, which in itself is worrying if one adheres to the principles of evidence-based medicine but does not answer the question whether current practice is based on overuse. To answer this question, one needs to go back to what actually constitutes the disease unexplained infertility. In other words, what kind of patients are we treating with IVF and is this really effective? If the answer to the latter would be negative, then we would have a clinical practice based on overuse. The basic facts on unexplained infertility are the following. First, in couples attempting to become pregnant a new chance to conceive arises every month again, second, each couple has a ~ constant monthly chance to conceive but between couples' chances vary widely and third, the most fertile couples conceive first, leaving progressively less fertile couples in the pool of not (yet) pregnant couples. This means, that over time, the population of our patients changes from a heterogeneous group with variable prognoses on natural conception into a more homogenous group with an ever-increasing worse prognosis. This implies that the



prognostic profile of the couples we see, and treat is of paramount importance and this in turn means that we cannot apply IVF in couples with unexplained infertility without first determining their actual prognosis on natural conception. Models that are able to do so currently exist and have been validated. These models will be presented. To prevent overuse this is not enough; obviously, we need to compare the prognosis on natural conception with the prognosis on conception after IVF in the same couple. The first data are now available based upon a cohort study and a subgroup analysis performed in a network meta-analysis comparing IVF with expectant management. The data of both studies show that IVF only contributes to an increase in live birth rate in couples with a poor prognosis on natural conception. So, the conclusion must be that current knowledge shows that indiscriminate use of IVF, ie IVF in any couple with unexplained infertility, leads by definition to overuse of the intervention. This misuse of IVF is easily reduced by selective use of IVF, ie IVF in couples after careful assessment of their prognosis after IVF relative to their chances after extended natural conception at various time points. Edwards and Steptoe would not have seen it otherwise.

IVF AND THE LAB: WHICH CULTURE MEDIUM TO USE?

Aafke P.A. van Montfoort

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Which culture medium to use? An easy question to ask, but difficult to answer. In vivo, the embryo obtains its nutrients from the oviduct and uterine fluid, the composition of which is partly determined by the mother's nutrition. In vitro, the embryo is dependent on the composition of the culture medium where the embryo is put in. At present there are several dozens of embryo culture media commercially available on the market. Most of these are physiological saline solutions to which components are added based on either one of two principles; 'let the embryo choose' in which the optimal concentration for blastocyst development of each component is based on simplex optimization or 'back to nature' in which the formulation of the medium is based on the components and its concentration in the oviduct and uterine fluid. The latter evolved into a so-called 'sequential culture system'. After three days of culture, the embryo is transferred to a medium of a different composition. This is assumed to better reflect the changes in composition the embryo would be exposed to on its way through the fallopian tube and the uterus. Even though the composition of most media is based on only a few similar principles, all media differ in their components and/or concentration of components. In general, the media contain salts (ions), energy sources (glucose, pyruvate and/or lactate), proteins (like albumin) and amino acids, however the exact composition is not disclosed by the manufacturers for commercial reasons. Studies analysing known predefined components in commercially available media showed that the concentrations varied considerably.^{1,2} Besides, next to these known components, there are also many unknown and undeclared components, as followed from protein analyses of eight commercial culture media.³ The variation in composition and the undisclosed components create the first obstacle in selecting a single best medium. To compare all media available would require a very complex randomized controlled trial (RCT). Several RCTs comparing two or three media have been performed. However, through the relative scarcity of trials in comparison to the number of possible comparisons, the superiority of one or a few media above others cannot be determined.⁴ Another issue to consider when discussing about which culture medium is the best, is which outcome parameter should be

taken. Some trials use embryo or blastocyst quality, while others focus on pregnancy, or, may be even better, live birth rates. In recent years however, several publications showed, in both animal and human, that the composition of the culture medium can affect perinatal and postnatal health outcomes. Birth weight for instance, which is considered indicative for future health based on the Developmental Origins of Health and Diseases concept, was found to be altered when comparing newborns who as an embryo were cultured in two different media.^{5,6} Furthermore, postnatal weight and child development have been reported to be different according to the culture medium used.^{7,8} Although more research is needed to confirm postnatal culture medium effects, an "offspring health" parameter might be more appropriate as an outcome measure to determine which medium to use. However, waiting until adulthood before a culture medium can be properly evaluated is not an option. This urges for more research in defining an early proxy for health at later ages, such as birthweight or (epigenetic) biomarkers.

¹ Tarahomi M, et al. *Hum Reprod.* 2019 Jul 26, in press.

² Morbeck DE, et al. *Fertil Steril.* 2014 Sep;102(3):759-766.

³ Dyrland TF, et al. *Hum Reprod.* 2014 Nov;29(11):2421-30.

⁴ Youssef MM, et al. *Cochrane Database Syst Rev.* 2015 Nov 20;(11).

⁵ Kleijkers SH, et al. *Hum Reprod.* 2016 Oct;31(10):2219-30.

⁶ Zandstra H, et al. *Hum Reprod.* 2015 Mar;30(3):530-42.

⁷ Zandstra H, et al. *Hum Reprod.* 2018 Sep 1;33(9):1645-1656

⁸ Bouillon C, et al. *PLoS One.* 2016 Mar 23;11(3):e0150857.

Finally, it is important to realize that it is not only the culture medium on its own that determines IVF success rates. During culture, also pH, temperature, air quality, dishes, mineral oil and many other factors and probably the interactions between all these factors and culture medium affect the IVF success rate of an IVF clinic. The best culture medium might therefore be different for every clinic. In conclusion, a definite answer on which culture medium to use cannot be given at present. More large, multicentre, maybe even multinational randomized trials are needed, and more attention should be given to follow-up of IVF progeny.

ORGANOIDS FROM HEALTHY AND DISEASED ENDOMETRIUM AS INNOVATIVE RESEARCH TOOLS IN REPRODUCTIVE BIOLOGY

Hugo Vankelecom

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The endometrium is the first contact site of the embryo and crucial for human reproduction. Knowledge on the cellular and molecular mechanisms underlying the tissue's monthly remodeling and its embryo receptivity remains poor, as well as on how these processes go awry in endometrium pathology. This limited understanding is primarily due to a lack of reliable and robust research models. Organoid technology provides an innovative tool to grow mini-tissues in culture. We established 3D organoid models from both healthy and diseased endometrium which reproduce key features of the original epithelial tissue. In addition, the organoids show long-term expansion capacity while remaining genomically, transcriptomically and functionally stable. Endometrium-derived organoids phenocopy physiological responses to reproductive hormones and mimic the menstrual cycle 'in the dish'. Organoids from endometriosis and endometrial cancer recapitulate characteristics of the patients' diseased tissue and faithfully capture the clinical heterogeneity. Regarding endometriosis, little is known on its pathogenesis and on the underlying causes of its prominently associated infertility. Endometriosis-derived organoids can help to decode these burning issues. Taken together, the established organoid



models provide powerful and innovative tools to study multiple aspects of reproductive biology including endometrium receptivity and infertility. Moreover, organoids have potential as (personalized) drug screening platform.

VAGINAL LACTOBACILLI: KEY TO SUCCESSFUL HUMAN REPRODUCTION AND FUTURE ANTIBIOTIC RESISTANT THERAPY

Gary Ventolini, USA

New molecular technique investigations have enabled in-depth study of vaginal microbiome including Lactobacilli. Healthier childbearing age women worldwide have vaginal microbiome mostly dominated by *L. crispatus* and *L. jensenii*; although *L. gasseri* and *L. iners* may also be present. A stable and healthier vaginal and endometrial microbiome are necessary for successful assisted reproductive techniques including IUI and IVF. Although less important for embryonic cryopreservation and frozen ET since less dependents from variations of estrogen levels. Consequently, a compatibility between the upper and lower genital tract microbiomes is expected. Pathological modification of the uterine microbiome is associated with poor reproductive outcomes in spontaneous pregnancies and IVF patients. For instance, chronic endometritis has been linked with recurrent implantation failure and pregnancy loss in almost half of infertile patients. Additionally, bacterial contamination of the endometrium has been proposed as new factor in the establishment of endometriosis. Therefore, intravaginal and endometrial microbiome are responsible for maintaining a healthy milieu to allow riskless human reproduction, from conception to delivery. Lactobacilli maintain a healthy ecological vaginal milieu by producing lactic and organic acids, hydrogen peroxide, hydroxyl radicals, bacteriocins, bio surfactants, arginine deaminases, and biofilm. Recently, we reported that vaginal Lactobacilli products knockdown biofilms produced by *Gardnerella vaginalis* in vitro; and by *Pseudomonas aeruginosa* in vitro and in vivo since these products prevented sepsis in murine models of thermal injury and dorsal excision. We predict soon the utilization of Lactobacilli products to assisting/taking care of not only Bacterial Vaginosis microbes but most importantly antibiotic resistant bacteria.

NIPT : WHAT THE PHYSICIAN SHOULD KNOW ABOUT THE TEST?

Francois Vialard, France

NIPT (non-invasive prenatal testing) is based on free fetal DNA (ffDNA) (1) in maternal blood (2) with a trophoblastic origin (3) with a high quantity variation between women. These 3 points originate few results interpretation problems that need to be considered for interpretation. Initially, NIPT was done for fetal sex diagnosis and secondly for RhD identification. In these contexts, the DNA sequence is absent in the mother. Its identification gives the opportunity to perform a fetal diagnosis without any invasive procedure for confirmation. At the opposite, to study DNA sequences, with a maternal and fetal origins, give us the opportunity to perform a screening test associates, when positive, to invasive procedure for confirmation. The main discussion is to implement or nor this technology for everyone, and to define the diseases that need to be screened. Furthermore, as the ffDNA is trophoblastic originated, what is the positive predictive value (PPV) for test not based on fetal DNA ? Focusing on Down syndrome screening, PPV was very high, and limitations are based on ffDNA origin. Discordance between trophoblast and fetus is a well-known mechanism, frequently identified in prenatal diagnosis. Furthermore, to focus on Down syndrome allows to miss syndromes

previously identified using invasive procedure. NIPT for Down syndrome only screens the number of chromosome 21. It isn't a low-resolution whole genome analysis like conventional karyotype. According to that, why not to propose a larger NIPT to screen to most frequent syndromes ? But which syndromes are going to be screened : the most frequent, those which a full genetic penetrance, those with a homogeneous genetic defect ? This question is still on debate, but if the region 22q11.2 seems to be the most relevant, many cautions exist.

CAN LASERS REDUCE OVERACTIVE BLADDER SYMPTOMS?

Zdenko Vizintin

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Problem statement: The purpose of this lecture is to report about studies in which new laser treatment was used for therapy of overactive bladder (OAB) symptoms. **Methods:** In last few years four clinical studies were published in which the authors were assessing the efficacy and safety of non-ablative Erbium YAG laser for the treatment of the overactive bladder symptoms. In all of these studies the OABSS score was used as a measurement tool for efficacy. In two studies the comparison of laser treatment with surgery and with standard medications (anticholinergics and beta 3 adrenoceptor agonists) were performed. Patients received between one and three laser treatment sessions (one session in Tien study, two sessions on Lin study and three sessions in Okui studies) and were follow up between 3 months and 1 year. Adverse effects were observed at every follow-up and in one of the studies patients were interviewed about their satisfaction with the results. **Results:** In all four studies 165 (35, 30, 50, 50) female patients were treated with non-ablative ErYAG laser and in two studies with comparison to surgery and medicaments additional 100 patients were included in control groups. Patients were assessed with OABSS questionnaire. The OABSS scores significantly improved in all four studies (from 8.16 to 3.76; from 4.1 to 2.7; from 8.2 to 6.1). At 6 months follow up the improvement of symptoms in the laser groups was still significant. The adverse effects were all mild and transient. Majority of interviewed patients were satisfied with the treatment and the outcome. **Conclusions:** Non-ablative ErYAG laser therapy for overactive bladder (OAB) symptoms demonstrated significant improvement of the OABSS score. This laser therapy seems to be a promising option for OAB patients not willing to perform long term medication therapy. However more studies with larger number of patients and longer follow-up are needed for better understanding and stronger evidence of this new treatment option.

THE LONG-TERM HEALTH RISKS OF POI

Lisa Webber, UK

Premature ovarian insufficiency (POI) affects 1% of women of reproductive age. As well as being a cause of infertility, POI has long term health consequences for affected women. Untreated POI is associated with reduced life expectancy and increased risk of cardiovascular disease and osteoporosis. There is a suggestion that POI is a condition of premature aging. Quality of life is adversely affected and there may be a detrimental effect on cognition. Hormone replacement therapy (HRT) is recommended to reduce the long-term risks of POI, but the evidence is limited and the populations studied are often of mixed aetiology. Compliance with HRT may be poor, probably for a number of reasons, but including misunderstanding the risks and benefits of treatment and possibly lack of acceptance of the diagnosis.



THE FUNDAMENTALS OF LAPAROSCOPIC SURGERY DURING PREGNANCY

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The safety of laparoscopic surgery during pregnancy remains debated, despite the well-established benefit of minimally invasive surgery (MIS) in nonpregnant patients. Non-obstetrical-related surgery during pregnancy is not rare, occurring in 1-2% of all pregnant women. In the United States, non-obstetric surgery is performed in 1:200 to 1:500 of pregnant women annually. This presentation focuses on the current guidelines and recommendations to optimize maternal and fetal outcomes using laparoscopic and minimally invasive surgical (MIS) techniques in the operative care of gravid patients. We will review diagnostic workup, patient selection, patient positioning, port placement, insufflation pressure, intraoperative monitoring and other perioperative/postoperative care. Operative laparoscopy during pregnancy should minimize fetal risk without diminishing the safety and quality outcomes for the mother. This presentation will provide guidance and recommendations to help surgeons in the laparoscopic surgical care of the gravid patient.



ORAL PRESENTATION ABSTRACTS

OP1-101

THE DIAGNOSTIC ACCURACY OF 3-DIMENSIONAL SALINE INFUSION TRANSVAGINAL ULTRASOUND (3-D SIS) COMPARED WITH COMBINED LAPAROSCOPIC - HYSTEROSCOPIC PROCEDURE IN THE DISTINCTION BETWEEN SEPTATE AND BICORNUATE UTERI

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Problem statement: The prevalence of congenital uterine anomalies is reported to be about 5-14% in different patient populations. Septate uterus (the most common uterine anomaly) and bicornuate uterus are found to be associated with the risk of subfertility and adverse reproductive outcomes. Accurate diagnosis of these two types of uterine anomalies is mandatory, where the patients may benefit from specific therapeutic modalities. Although laparoscopy performed concurrently with hysteroscopy has been considered as the gold standard in confirmation of diagnosis of uterine anomalies, this procedure is associated with the complications of surgery and anesthesia. Three-dimensional saline infusion transvaginal ultrasound (3-D SIS) is a fast-evaluating, relatively cost-effective, and minimal invasive imaging technique with considerable ability to depict congenital uterine anomalies. In this study, main objective was first to evaluate the accuracy of this modality in the evaluation of uterine contour and cavity, and second, to analysis the level of agreement in the results between this method and combined diagnostic laparoscopy/ hysteroscopy as a gold standard.

Methods: In this double-blind prospective study, 100 reproductive age (30.19 ± 2.31) women with history of spontaneous abortion(s) (57%) or candidate for assisted reproductive technology procedures (43%) and a suspected diagnosis of congenital uterine anomalies by hysterosalpingography were enrolled. The patients underwent (3-D SIS) and hysteroscopy with laparoscopy to establish the final diagnosis. The findings of two procedures were compared.

Results: The accuracy, sensitivity, specificity, positive predictive value (PPV), and negative predictive value (NPV) of (3-D SIS) in diagnosis of uterine anomalies were 98.6, 100, 96.77, 97.66, 100%, respectively. The accuracy, sensitivity, specificity, positive predictive value (PPV), and negative predictive value (NPV) in the differentiation of septate uterus from bicornuate uterus were 100%. **Conclusion:** There is a close correlation between the findings of (3-D SIS) and laparoscopy performed concurrently with hysteroscopy for the diagnosis of congenital uterine anomalies. (Three-D SIS) could be considered as an accurate and minimal invasive diagnostic procedure to assess uterine contour and cavity. This modality have the potential to become the gold standard in distinction between septate and bicornuate uteri.

OP1-102

VALUE OF VAGINAL FETAL FIBRONECTIN AND CERVICAL INTERLEUKIN-8 IN PREDICTING PREMATURE BIRTH

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Problem statement: Premature birth is a major problem of medicine in general as well as obstetrics in particular. According to a WHO study, there are approximately 15 million premature babies are born annually. In clinical practice, due to unclear symptoms, the diagnosis of preterm labor remains challenging. If doctors could diagnose sooner, preterm births would be treated

earlier and more effective. **Objectives:** This study was undertaken to determine the value of fetal fibronectin (FFN) in vaginal mucus and interleukin-8 (IL-8) in cervical mucus to predict preterm labor. **Methods:** From 2016-2018, 146 pregnancy women with preterm labor symptoms were screened at 28-32 weeks of gestation for FFN and IL-8 in vaginal and cervical mucus. **Results:** IL-8 and FFN test showed high value in predicting for premature birth before 37 weeks, 34 weeks, within 7 days and 14 days. Among them, predicting for premature birth before 34 weeks showed highest value (OR=14.7 with IL-8 test and OR=21.4 with FFN test). Combination of FFN probe with cervical length ultrasonography increased predictive value of premature birth, especially premature birth before 34 weeks (OR = 32.1). Another combination of IL-8 and FFN probe test increased diagnosing value of premature birth before 34 weeks (OR = 25.1). Especially when combining FFN negative with IL-8 in low-risk pregnant group, there are no pregnant woman delivered prematurely within 14 days. **Conclusions:** FFN in vaginal mucus and IL-8 in cervical mucus had high value in predict preterm, especially when we combine them together.

OP1-103

MANAGEMENT OF ENDOMETRIOSIS IN WOMEN AT REPRODUCTIVE AGE: SYSTEMATIC REVIEW AND CRITICAL APPRAISAL OF CURRENT GUIDELINES INCLUDING 2018 SPANISH FERTILITY SOCIETY ENDOMETRIOSIS CLINICAL GUIDELINE

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Problem statement: The main scope of Clinical Practice Guidelines is to resume the available evidence so undesirable clinical practice variation can be reduced. Former appraisals have found important methodological differences among Endometriosis Guidelines, many of them scoring below the desirable average. Two reviewers (JAD,MC) performed a systematic research at PubMed/MEDLINE and EMBASE from 2008 to 2019. Inclusion criteria: Endometriosis Guidelines in English, French and Spanish. Two reviewers (JAD,MC) assessed guidelines quality except the Spanish guideline, assessed by four independent reviewers (GB,JLL,RM,EPB). The assessment of methodological quality was performed with the Appraisal of Guidelines for Research & Evaluation II (Agree II), a fully validated assessment instrument containing 23 items grouped into 6 domains. Each item is evaluated with a seven-point Likert scale score, between 1 (strongly disagree) and 7 (strongly agree), for each item. As former appraisals, a guideline score was calculated by summation of domains and standardised. Guidelines were then categorised as high quality between 67-100%, moderate 34-66% and low 0-33%. **Results:** Search strategy identified 584 references. Finally 10 National and International Guidelines were included in the review (by chronological order): Spanish Fertility Society(SEF,2018), Korean Society of Endometriosis(2018), Collège National des Gynécologues et Obstétriciens Français(CNGOF,2018), National Institute for Health and Care Excellence(NICE,2017), National German Guideline(S2k,2014), European Society of Human Reproduction and Embryology(ESHRE,2013), World Endometriosis Society Montpellier Consensus(WES,2013), Spanish Health Ministry(2013), Australasian Certificate of Reproductive Endocrinology and Infertility Consensus Expert Panel on Trial Evidence(ACCEPT, 2012), American Society of Reproductive Medicine(ASRM,2012), and Society of Obstetricians and Gynaecologists of Canada(SOGC, 2010). After Guidelines AGREE-II appraisal, scoring remained as follows: NICE-2017: 152,5 points(95%), SEF-2018: 126,5(78%), ESHRE-2013: 104(65%), S2k-2014: 103(64%), CNGOF-2018: 98(61%), WES-2013: 92,5(57%), ACCEPT-2012: 81,5(51%), Korea-2018: 81(50%), Spanish Health M.-73,5(46%), SOGC-



2010: 71,5(44%) and ASRM-2012: 55,5(34%). Only two of the guidelines reached the upper tertile (67-100%): NICE-2017 and SEF-2018. All of the rest scored in the intermediate tertile (34-66%). **Conclusion:** Clinical Guidelines are expected to facilitate more consistent and efficient medicine with improvements in health outcomes. AGREE-II is a fully validated instrument that permits quality assessment of Clinical Guidelines and can help develop more rigorous and transparent documents.

OP1-104

MTHFR IN A LARGE INFERTILE COHORT OF MORE THAN 2500 PATIENTS: INCIDENCE, EFFECT OF TREATMENT AND IMPACT ON OTHER SYSTEMS

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Problem statement: MTHFR mutations have an important impact on fertility: implantation failures are fourfold higher in MTHFR c677T homozygotes (Enciso, 2017), sperm DNA defects are significantly higher in MTHFR mutations carriers (Cornet, 2017). The impact of MTHFR can be due to the higher homocysteine levels in mutation carriers since MTHFR mutation decreases by up to 75% the capacity to generate 5MTHF. What is the incidence of MTHFR gene mutation in the infertile population? What are the beneficial effects of its treatment?

Methods: Partners of couples suffering from long lasting infertility (2 years minimum) from 3 different clinics were screened for MTHFR c677CT and c1298AC mutations. Mutation(s) carriers were treated with 5MTHF during 4 months before starting a new ART attempt. 5MTHF by-pass the problems linked to MTHFR impaired activity. Homocysteine levels were measured before and after treatment. **Results:** 2503 patients were included and screened for c677CT and c1298AC. 198 mutation(s) carriers had their homocysteine levels measured before and after treatment: competitive immunoassay using direct, chemiluminescent technology. 15.7% of the patients were wild type for both c677CT and c1298AC (84.3% of the patients were carrying at least one of the two mutations). 51.8% of patients were carrying the c677CT mutation (44.9% in a heterozygous and 10.9% in a homozygous state); 49.8% of patients were carrying the c1298AC mutation (41.4% in a heterozygous and 8.4% in a homozygous state). The average level of homocysteine among homozygous and heterozygous patients was significantly higher than among wild type patients (respectively 18.4 and 10.7 vs 7.9, $p=0.00005$ and $p=0.01$). After treatment, the levels of homocysteine significantly dropped down to respectively 10.5 and 9.8 ($p0.01$). **Conclusions:** 5MTHF treatment allows a decrease in homocysteine levels among the mutation carriers, thus improves their fertility and avoids the homocysteine negative impact on the different human systems. Indeed, the negative effect of homocysteine on different systems has been described: cardiovascular (Klerk, 2002), obstetrics (Wen, 2008), neurological (Smith, 2016), psychological (Brumette, 2017), bone (Refsum, 2006), ophtalmic (Bischt, 2018). Thus, besides improving their fertility, treating the infertile mutation carriers seems essential to prevent some diseases on other human systems.

OP1-105

TREATMENT FOR MTHFR (METHYLENETETRAHYDROFOLATE REDUCTASE) C677T MUTATIONS CARRIERS WITH 5 METHYLENE TETRAHYDROFOLATE (5MTHF) IMPROVES THEIR ART OUTCOMES

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Problem statement: ART failures can be induced by MTHFR polymorphisms through the increased homocysteine levels (Guo, 2016). To decrease homocysteine levels, the current consensus is in favor of a treatment by high doses of folic acid. However, folic acid can induce the so-called UMFA

(unmetabolized folic acid syndrom) (Sweeney, 2007; Plumptre, 2015)) and it does not significantly improve the pregnancy rate. The objective is to see whether 5MTHF can decrease homocysteine levels, improve oxidative stress and thus improve ART outcomes? **Methods:** We tested the MTHFR 677 isoform from 198 male and female patients from 3 different clinics suffering from infertility and having had at least 2 ART cycles failures and/or repeated miscarriages (3 to 9). We measured their homocysteine levels. We treated the mutation carriers with 5MTHF 400 µg/day during 4 months and measured their level of circulating homocysteine again after treatment. Among this group, we then followed the 30 couples in which an ART cycle was performed. **Results:** Among the infertile population of our study, 63.6% of the patients are carrying the MTHFR 677 mutation (43.9% in a heterozygous and 19.7% in a homozygous state). This proportion is significantly more important ($p0.05$) than the proportion of patients carrying MTHFR mutations in the general population: 50.5% (Zappacosta, 2014). The average level of homocysteine in homozygotes and heterozygotes patients is significantly higher than the average level of homocysteine in wild type patients (respectively 18.4 and 12.2 vs 7.9 µmol/L, $p=0.0003$ and $p=0.01$). After treatment, the level of homocysteine significantly decreased both in homozygous and heterozygous patients (10.5 and 9.8 µmol/L respectively, $p0.05$). Following the treatment, we obtained 18 pregnancies out of 30 cycles including 14 ongoing pregnancies (ongoing pregnancies rate per cycle: 47 %). **Conclusion:** Treating MTHFR mutations carriers with 5MTHF decreases their homocysteine levels and improves their ART outcomes. Infertile patients with ART cycle failures should be tested for MTHFR mutations and their homocysteine levels should be measured. Indeed, the affected patients could benefit from a treatment available allowing to by-pass the problems linked to MTHFR impaired activity and thus decreasing oxidative stress and improving their ART outcomes.

OP1-106

CYCLICAL VERSUS CONTINUOUS ORAL PROGESTIN MONOTHERAPY IN ENDOMETRIAL HYPERPLASIA WITHOUT ATYPIA

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Problem statement: The use of oral progestins in endometrial hyperplasia (EH) remain a popular choice after the Levonorgestrel intrauterine device, mostly due to patient preference and in some cases structural uterine abnormalities. We present a comparative audit of the effectiveness of cyclical (21 days per month) versus continuous oral progestin regimens, including Norethisterone (NorE) and Medroxyprogesterone acetate (MPA). We illustrate that cyclical oral progestin monotherapy produces similar remission rates to continuous oral progestin monotherapy for EH without atypia. **Methods:** This was a single-centre, retrospective audit. 119 cases were diagnosed with EH without atypia by endometrial biopsy and received either NorE or MPA monotherapy from April 2015 and December 2016. Patient notes and electronic patient records were reviewed for information on age, menopause status, parity, body mass index (BMI), Tamoxifen use, co-morbidities, method of histological sampling (dilatation and curettage [D&C] versus bedside endometrial sampling [ES]), type, dose, and duration of medical treatment given, subsequent histology reports, and length of follow-up. The objective was to compare the duration of treatment and regression rates for EH without atypia after treatment with cyclical versus continuous progestin monotherapy. **Results:** 90 cases had complete data and were included for analysis. Cases that were lost to follow-up or declined repeat endometrial biopsy were excluded. 45 cases received cyclical progestin monotherapy (all of which received progestin for 21 days per month). The remaining 45 cases had continuous oral progestin monotherapy. The patients were comparable in age, BMI, menopause status, Tamoxifen use, co-morbidities, method of endometrial biopsy, daily progestin dose, and duration of follow up.



	Cyclical	Continuous	Statistical Significance
Sample size	45	45	
Mean age (years)	44.5 ± 7.0	45.6 ± 7.5	p=0.45
Mean BMI (kg/m ²)	26.3 ± 5.9	27.3 ± 6.8	p=0.45
Mean parity	1.33 ± 1.15 (range 0-4)	2.24 ± 1.43 (range 0-7)	p<0.01
Menopause status	43 (95.5%) premenopausal	39 (86.6%) premenopausal	p=0.14
Tamoxifen use	0	1 (2.2%)	p=0.31
Method of endometrial biopsy	40 D&C, 5 ES	40 D&C, 5 ES	p=1.00
Mean daily progestin dose (mg/day)	21.4 ± 5.7	22.7 ± 9.3	p=0.21
Mean duration of follow up (months)	31.3 ± 12.2	26.7 ± 13.3	p=0.33
Mean duration of treatment (months)	4.93 ± 2.44	4.29 ± 2.0	p=0.18
Regression achieved	97.8%	91.1%	p=0.08

Table 1: Comparison of demographics and outcomes of cyclical versus continuous monotherapy groups

The average durations for cyclical versus continuous monotherapy were similar at 4.93 months and 4.29 months respectively (p=0.18). The regression rates for cyclical versus continuous oral progestin monotherapy were 97.8% and 91.1% respectively (p=0.08), suggesting no difference between the two. **Conclusion:** There seems to be no difference between cyclical versus continuous oral progestin monotherapy in achieving remission of EH without atypia. Larger studies are warranted to confirm these results.

OP1-107 CYTOREDUCTIVE SURGERY AND HYPERTHERMIC INTRAPERITONEAL CHEMOTHERAPY IN AN ADOLESCENT PATIENT WITH A RECURRENT UTERINE LEIOMYOSARCOMA AS PERITONEAL SARCOMATOSIS

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Problem statement: Peritoneal sarcomatosis (PS) from uterine leiomyosarcoma (ULMS) has no effective treatment and poor prognosis. Overall survival (OS) and progression-free survival (PFS) with cytoreductive surgery (CRS) alone, with or without systemic chemotherapy is 1 year and 6 months, respectively. We present a rare case of an adolescent patient with ULMS that recurred as PS. **Methods:** A 17-year-old presented with hemoperitoneum and a 20 x 10 x 18 uterine mass six months after an initial abdominal myomectomy for what was read as a benign leiomyoma. She underwent a repeat exploratory laparotomy and her final pathological examination revealed high grade ULMS. Her CT and MRI showed localized disease and she underwent adjuvant chemotherapy and radiation following a pediatric soft tissue sarcoma protocol. She then had a robotic assisted hysterectomy, bilateral salpingo-oophorectomy followed by three additional cycles of consolidation chemotherapy. Four months after completion of post-operative chemotherapy, she presented with 4.5 x 3.7 cm left lateral abdominal mass, 2.4 x 2 cm left lower quadrant mass and 0.9 cm posterior to the right hepatic lobe (Figure 1 A,B). It was determined that a complete CRS. **Results:** The patient underwent a CRS with tumor resection including a small bowel resection and omentectomy with tumor located in greater omentum and right retrohepatic space. All three tumors were completely resected, and the patient underwent hyperthermic intraperitoneal chemotherapy (HIPEC) with cisplatin 84 mg and doxorubicin 25 mg at 42 degrees C° over one hour. The final pathology confirmed resected tumors to be ULMS. The patient tolerated the procedure well and is currently receiving additional treatment with gemcitabine and docetaxel. **Conclusion:** There is no standard of care treatment for PS. CRS/HIPEC could be an option analogous to its use for peritoneal carcinomatosis from appendiceal, colorectal, gastric, and ovarian cancers. A worldwide study is underway to determine the effectiveness of CRS/HIPEC in PS from ULMS.

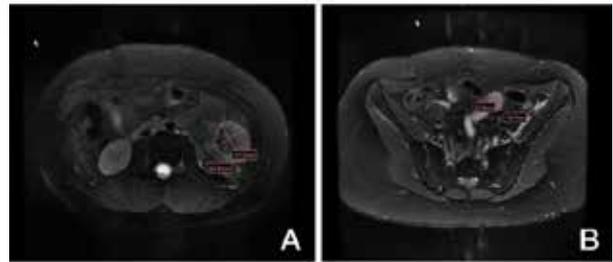


Figure 1: A) Left lateral abdomen 45mm x 37 mm mass
B) Left lower quadrant mass 24mm x 19.7 mm

OP1-108 EVALUATION OF GYNECOLOGIC CANCER AWARENESS AND CANCER WORRY IN WOMEN

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Problem statement: This study was conducted in order to evaluate gynecologic cancer awareness and cancer worry in women presenting at the gynecology polyclinic and to determine the relationship between those variables. **Method:** This cross sectional, descriptive, and correlational study was conducted in the gynecology polyclinics of the Woman and Child Disease Training and Research Hospital in Istanbul, Turkey between February 2018 and February 2019. The sample of the study consisted of 403 women between the ages of 20 and 65. Data was collected using an Introductory Information Form, the Cancer Worry Scale (CWS), and the Gynecological Cancer Awareness Scale (GCAS). **Results:** The mean age of the women participating in the study was 36.45 ± 10.69, and it was determined that 65.5% were married, 28.5% were high school graduates, 68% were unemployed, and 71% were worried about cancer. The GCAS mean total score of the participants was 156,55±22,14 while their CWS mean total score was 16,32±4,59. When the GCAS scores of those who worried about cancer and those who did not were compared, no statistically significant difference could be found (p>0.05), while an advanced difference in cancer worry was found between those two groups (p<0.001). When the GCAS and CWS scores of the women with and without a history of cancer in their family were compared, the groups were found to be similar (p>0.05). A positive, weak, and advanced significant relationship between the Gynecologic Cancer Risk Awareness sub dimension scores and Cancer Worry Scale total scores was found (r=0.13; p<0.001). No significant relationship between GCAS and CWS total scores could be found. **Conclusion:** Almost three quarters of the women experienced cancer worry despite gynecologic cancer awareness and cancer worry being on moderate levels. Those who had fear of cancer had higher cancer worry. However, cancer worry was found not to affect Gynecologic Cancer Awareness. It is suggested that health professionals working in the field of women's health should increase the gynecologic cancer awareness of women and refer them for the necessary routine scans for early diagnosis.

OP1-109 A SYSTEMATIC REVIEW WITH META-ANALYSIS OF NRF2 AS A PROGNOSTIC MARKER FOR BREAST CANCER SURVIVAL

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Problem statement: Nuclear factor E2-related factor 2 (NRF2), is a transcription factor that plays a major role on the regulation of intracellular antioxidant response. The effect of NRF2 overexpression in many malignancies is still unclear and recent meta-analysis correlated the overexpression of this transcription factor with poor prognosis in a variety of human cancers. However, the effect of NRF2 overexpression in breast cancer is still unclear. Thus, the main goal of this work was to clarify the role of NRF2 expression in survival of breast cancer patients by performing a systematic review according to PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analysis) statement, followed by a meta-analysis. **Methods:** The electronic search was conducted in PubMed, Scopus, SciELO, Web of Science and Embase between November of 2017 and September of 2018. To be included, studies should evaluated NRF2 expression in breast cancer tissue, through immunohistochemistry and/or mRNA and had to report 1 or more of the following outcomes: overall survival (OS), disease-free survival (DFS). **Results:** For the meta-analysis, 7 studies were included and NRF2 expression was correlated with OS and DFS. It was observed that compared to patients with low NRF2 expression, patients with NRF2 overexpression had poorer OS (p -value = 0,000) and poorer DFS (p -value = 0,027). These results suggest that tumours that overexpress NRF2 have a more aggressive behaviour. **Conclusion:** Thus, NRF2 expression could be a marker for the prognostic of breast cancer patients and in the future, it would be pertinent to focus on improving treatment efficacy for patients with NRF2 overexpression. **Conflict of Interest:** The authors declare that they have no conflict of interest.

OP1-110

CYTOTOXICITY OF SOURSOP LEAVES (ANNONA MURICATA) AGAINST HELA CERVICAL CANCER CELLS

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Problem statement: Cervical cancer is the cancer with highest prevalence and the leading cause of women's death worldwide. Current treatments available for cervical cancer are chemotherapy, radiation, surgery, and nuclear therapy. Unfortunately, these treatments still have several limitations due to serious side effects, development of resistance, and very expensive price. Therefore, it is necessary to develop effective and low-cost therapy to treat cervical cancer. One of which is by utilizing natural sources available in Indonesia such as soursop (*Annona muricata*) leaves which has been used in folk medicine as treatment for various diseases, including cancer. However, studies about its cytotoxicity against cervical cancer are still limited. The aim of this research is to analyze the potency of *A. muricata* leaves extracts originated from Indonesia as a novel alternative treatment for cervical cancer. **Methods:** This study is an experimental study conducted in Department of Chemistry, Faculty of Medicine, University of Indonesia using HeLa cervical cancer cells. *A. muricata* leaves originated from Serpong, West Java, Indonesia were grounded and macerated in three solvents with various polarity consist of ethanol (polar), ethyl acetate (semipolar) and hexane (non-polar). Then, the extracts were diluted into 8 various concentrations. Triplo mechanism is also applied in this study to increase accuracy of the results. Cytotoxicity of *A. muricata* leaves extracts against HeLa cervical cancer cells were determined by MTT assay and shown by IC₅₀ value. Data was analysed using analysis of variance (ANOVA). Statistical significance level was established at $p < 0.05$. **Results:**

The results showed that three extracts of *A. muricata* have strong cytotoxicity against cervical HeLa cells. The highest cytotoxic activity was shown by ethanol extract with an IC₅₀ of 35,51 µg/mL, followed by ethyl acetate (IC₅₀ 5,91 µg/mL), and hexane (IC₅₀ 8,39 µg/mL). Based on statistical analysis, there is no significant difference between IC₅₀ of three extracts *A. muricata* ($p = 0.055$). **Conclusion:** *A. muricata* leaves extracts are potential to be developed as a novel alternative therapy for cervical cancer.

Keywords: *Annona muricata*, Cytotoxicity, HeLa cervical cancer cells, Soursop leaves. **Abbreviations Used** MTT: (3-(4,5-Dimethylthiazol-2-yl)-2,5-Diphenyltetrazolium Bromide); IC₅₀: Inhibition Concentration 50%; HeLa: Henrietta Lack. **Disclosure of Interest:** The authors declare no conflict of interest.

OP1-111

A RARE CASE OF ATYPICAL HEMOLYTIC UREMIC SYNDROME FOLLOWING MEDICAL TERMINATION OF PREGNANCY

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Hemolytic uremic syndrome is a relatively rare, progressive and life-threatening form of thrombotic microangiopathy. A 30 years old Para 1 was admitted for Medical termination of pregnancy due to major fetal anomalies. She delivered the fetus spontaneously but was taken to theatre for manual removal of placenta. While in recovery her blood pressure (BP) shot up to 200/140. She was given labetalol boluses but BP was resistant. She also started to develop blurring of vision and severe headache. At this stage hydralazine was given and MgSO₄ bolus and infusion was given as a prophylaxis for Eclampsia. The potential diagnosis was PET/HELLP. She was transferred to High dependency unit. Her blood results showed Hb: 98g/l, platelets for 90, her creatinine was 160, ALT 70. Over night the blood pressure remained well controlled but urine output was less than 20ml/hr. Blood were repeated 6 hours later which showed Hb; 67, plt 70 and creatinine of 296. The fibrinogen level as well as prothrombin and partial thromboplastin times were normal. ADAMTS13 activity level was 56%. She was transfused with two units of blood. A opinion from medical team was taken and they suggested a renal opinion. Immunological investigations, complement factor and LDH were sent off. LDH came back as 2790. At this stage the patient became septic so she was started on co-amoxiclav and a whole set of in septic screen bloods were sent off. Renal team suggested a diagnosis of atypical HUS on her 3rd postop day. They started her off on dialysis on alternate days. And suggested use of Eculizumab but suggested to clear the source of infection first. A pelvic ultrasound showed mild amount of RPOCs. She had a repeat evacuation of retained products under ultrasound guidance. She still continued to spike temperature and was started on Tazocin. Her inflammatory markers settled down and she was started on Eculizumab. She is recovering well and on regular follow up. **Conclusion:** Atypical HUS can be a diagnostic challenge as the the symptoms overlap with Preeclampsia and HELLP. Multidisciplinary input is imperative for appropriate management.

OP1-112

PREVENT MOTHER-TO-CHILD TRANSMISSION (PMTCT) PROGRAMS AND ENHANCEMENT OF MATERNAL HEALTHCARE INFRASTRUCTURE TO IMPROVE EARLY DETECTION OF MATERNAL SYPHILIS IN SHANGHAI, CHINA

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Problem statement: Maternal syphilis is a health threat to both the pregnant women and the children. About 2 million women suffering from maternal syphilis every year, 60% of whom transmit the infection to their newborns. Objective: To compare the screening and diagnosis of maternal syphilis in Shanghai between the national and municipal policies of Prevent Mother-to-Child Transmission (PMTCT) of Syphilis, and then to assess whether PMTCT programs and enhancing healthcare



infrastructure could bring about an early detection of maternal syphilis. **Methods:** Detection of maternal syphilis was initiated in 2001 and then scaled-up in 2011 along with enhancing antenatal healthcare infrastructure. The initial 5-years of municipal and national PMTCT policies were respectively defined as "Exploring Period" (2002–2006) and "Comprehensive Period" (2011–2015). Demographic and gestational weeks (GW) of syphilis screening and diagnosis were analyzed to identify the factors affecting early detection. Patients: All of the pregnant women during the two periods were included. Interventions: Shanghai initiated the municipal PMTCT program in 2001, which was a joint effort among local health facilities for delivery and sexually transmitted infection treatment. Since 2011, it has been intensified and upgraded, enhancing secured central government budget, quality assured laboratory for syphilis screening and diagnosis, and comprehensive training and supervision for capacity building in all maternity health facilities. **Results:** The amount of maternal syphilis screening increased from 83,718 in 2002 to 243,432 in 2015. Of the 1,894,062 screened pregnant women, 1,526 and 2,714 participants were diagnosed with maternal syphilis respectively. The average age was 28.36 years and non-resident accounted for 71.1%. In comprehensive periods, more women received early syphilis screening (14.0% vs. 10.8%) and diagnosis (13.3% vs. 7.3%) within 12 GWs. Significantly, the proportion of early detection sustained growth during 2011–2015 rather than years in exploring period. Multivariate analysis revealed a higher possibility for infected women in comprehensive period to be diagnosed within 16GWs (OR = 2.76), but those who were non-resident and unemployed were less likely to receive early detection. **Conclusion:** Early detection of maternal syphilis has been remarkably improved. More emphasis is required on developing pro-vulnerable policies and implementing tailored health education on syphilis prevention.

OP2-201
PREGNANCY COMPLICATIONS AND ITS MANAGEMENT: AN EXPERIENCE AT DISTRICT HOSPITAL OF NEPAL

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Problem statement: Pregnancy Complications and its management: Experience at District Hospital of Nepal.
Methods: This is a retrospective, descriptive, observational study of the obstetric cases having complications before, during and immediate thereafter at Bhim Hospital, Bhairahawa, Nepal in a period of one year (FY 2012-2013). Except the abortion, live birth are included in the study. **Results:** Out of 1594 pregnant women admitted in the hospital, 1280 cases gave the live births. 264 cases were admitted due to abortion complications either induced abortion 119 cases (45%) spontaneous abortions 145 cases (55%). The complications observed were 288 numbers (22.5%). Most frequent complication is prolonged second stage of labor is 105 number (36.4%) then retained placenta 53 cases (18.4%) followed by mal-positions mainly breech 49 (17.1%), cervical tear 25 cases (8.6%), immediate postpartum hemorrhage 19 cases (6.6%), third degree tear 8 cases (2.7%). Cesarean sections were done for limited time, only 26 cases. Total obstetric cases at that time is 168 cases. Main indications for operative delivery were mal-position 8 cases (30%) and spontaneous rupture of membrane (SROM) 6 cases (25%) followed by previous CS and CPD 7 cases (29%), eclampsia and severe eclampsia 5 cases (20%). The Cesarean rate is 7%. There is no maternal mortality during this study period. **Conclusions:** This study shows that every pregnancy is not risk free. Health staff must work like a watch dog 24 hours a day to recognize promptly and manage the complications promptly. This study will help to manage resources and also to have training to the staff. Common complications come commonly and general practitioners in Nepal are quite competent to manage those complications occurring in pregnancy even such resource constraint setting.

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of: none, **Paid Instructor for:** none, **Speakers Bureau for:** none, **Other:** none

OP1-202
GROUP A STREPTOCOCCAL (GAS) INFECTIONS IN OBSTETRICS AND GYNECOLOGY

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Problem: Group A Streptococcal Sepsis in Obstetrics and Gynecology; an uncommon but re-emerging disease. **Methods:** A series of cases resulting in serious morbidity and mortality were reviewed. **Results:** Clinical findings that could have resulted in earlier intervention and diminished morbidity were not recognized. **Conclusion:** This oral presentation will discuss strategies to identify and appropriately manage GAS sepsis. **No Disclosures**

OP1-203
CLINICAL SAFETY AND EFFICACY OF DINOPROSTONE GEL FOR CERVICAL RIPENING IN A PREGNANT WOMEN NOT IN LABOR

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Problem statement: To determine the safety of dinoprostone gel and clinical efficacy for cervical ripening among women for labor induction with a Bishop score of less than 9

Methods:



Results: A median of 1 dinoprostone gel was used per woman. No significant differences based on parity were detected for the outcomes of dinoprostone dosage and mode of delivery, although in terms of relative proportion, more multiparous women gave birth normally (69% vs. 57%, P = 0.226). There was, however, evidence of increased induction success among women who have given birth previously (94% vs 79%, P = 0.022). The success group generally had higher Bishop scores (i.e. success group had predominantly Bishop 4 and up scores) and higher ages of gestation, more than 50% term patients. There was insufficient evidence to demonstrate a difference between the AOG groups. The duration from labor induction to active phase of labor was shorter for those with BS 4 (median 240 versus 265 minutes), while the duration from labor induction to termination of pregnancy was shorter for BS 4 points (478 mins vs 510 mins). However, these were not statistically significant. Similarly, the duration from Dinoprostone insertion to active phase of labor was shorter for those with BS 4 (median 420 versus 502.5 minutes). The duration from Dinoprostone insertion to termination of pregnancy was also shorter for BS 4 points (685 mins vs 835 mins). However, these were not statistically significant. The median time from labor induction to active phase was 260 minutes (95% CI: 210 to 360 minutes) and from labor induction to termination was 490 minutes (95% CI: 434 to 590 minutes). The median interval from dinoprostone insertion to active labor and termination of pregnancy were 480 and 820 minutes, respectively. Labor was successfully induced in 83%. No adverse events were noted. **Conclusion:** The use of dinoprostone gel is safe. No adverse events have been reported. Induction success was at 83.03%. Vaginal delivery was achieved by 66.67% of the population. Significantly higher induction success and higher vaginal delivery rates were seen for parous group.

OP1-204

RELATIONSHIP BETWEEN SUCCESS AND FAILURE RATES OF SMUCS WITH ANTEPARTUM, INTRAPARTUM AND POSTPARTUM FACTORS IN ATONIC UTERINE CASES AT DR. SOETOMO HOSPITAL SURABAYA DURING 2012-2017Tizar Dwi Satyoputro^{1,2}, Nareswari Cininta Imadha Marcianora^{1,2}, Agus Sulistyono^{1,2}¹Obstetric and Gynecology Department, Faculty of Medicine Airlangga University, Surabaya, Indonesia²Obstetric and Gynecology Department, Dr. Soetomo Hospital Surabaya, Surabaya, Indonesia

Objective: To analyze the relationship between success and failure rates of surabaya-method uterine compression suture (SMUCS) with antepartum, intrapartum and postpartum in atonic uterine cases at dr. Soetomo hospital Surabaya **Methods:** This is an observational analytic study with case-control design. Subjects of this study were post-labor patients who had undergone SMUCS during 2012-2017 period. Secondary data was obtained from medical record to determine antepartum (age, parity, obesity, multiple pregnancy and maternal comorbidities, such as Diabetes-Mellitus, hypertension-in-pregnancy, heart disease in pregnancy, anemia, jaundice-of-pregnancy, SLE and infection), intrapartum (mode-of-delivery, induction of labor) and postpartum factors (interval of time when uterine compression suture surabaya-method in atonic uterine after SC or postpartum vaginal delivery was performed). Two-step analysis using bivariate and multivariate logistic regression were performed for screening and determine the-strength between two variables, respectively. **Results:** From 278-patients approximately 192-patients met the inclusion criteria. There were 32 failures and 160 successful cases. Bivariate regression test indicated 7 variables were significant (p0,25), including age, infection, anemia, hypertension-in-pregnancy, mode-of-delivery, induction of labor and interval of when to perform uterine compression. Multivariate regression for those 7 variables pointed only two were significant (p0,05), i.e. anemia (p0.016, OR4.78 CI:1.343 - 17.038) and time interval of when compression suture was performed. Longer duration of procedure delay related to failure rates at p0.001; OR 6.75; CI: 2.249 - 20.406 for over-than-two to 7-hours group and p0.016; OR 25.45; CI:2.781 - 232.893 for longer than 7-hour compare to less than one-hour. **Conclusion:** The failure of uterine compression suture surabaya-method were affected by anemia, delay of uterine compression 2-to-7-hours and delay for more-than 7-hours. **Keywords:** The failure of Uterine compression suture surabaya method, uterine atony, antepartum factors, intrapartum factors, postpartum factors.

OP1-205

CORRELATION OF TIMING OF DELIVERY AND MATERNAL AND FETAL OUTCOMES AMONG WOMEN WITH SEVERE PREECLAMPSIA: A DESCRIPTIVE CROSS-SECTIONAL STUDY

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Problem statement: Does the timing of delivery affect the maternal and fetal outcomes among women with severe preeclampsia? **Objectives:** The primary objective of this study is to determine whether the timing of delivery significantly affects maternal and fetal and neonatal outcome in women with severe preeclampsia. **Methods:** This is a descriptive cross-sectional study with a retrospective chart review of women with severe preeclampsia at the East Avenue Medical Center, Quezon City, Philippines. The outcomes measured were timing of delivery, adverse maternal, fetal and neonatal outcomes. **Results:** 362 women with severe preeclampsia were included. The most common maternal outcomes recorded were pulmonary congestion (5.52%), blood transfusion (3.87%) secondary to anemia from blood loss, and HELLP syndrome (3.04%). Majority delivered either via spontaneous vaginal delivery (43.3%) or assisted vaginal delivery (30.94%), successfully, with only a 23.76% delivering via cesarean section. There is insufficient evidence showing an association of the timing of delivery with

adverse maternal outcome. There is a significant association of the timing of delivery to neonatal adverse outcome. For patients in whom there was no maternal adverse event, a 50% probability of a neonatal adverse outcome occurs when the delivery is at 281 hours from admission. For babies born to mothers with a maternal adverse event before delivery, a 50% probability for a neonatal adverse outcome occurs if the baby was delivered at 24 hours from admission. For patients born to mothers who had a maternal adverse event during or after delivery, a 50% probability for a neonatal adverse outcome occurs if the baby was delivered at 21 hours from admission. **Conclusion:** We recommend a cut off time of 20 hours from the time of admission to delivery for women with severe preeclampsia already presenting with an adverse event. For women with severe preeclampsia presenting with no adverse maternal event, successful vaginal delivery can be achieved with no significant adverse maternal, fetal or neonatal outcome, as the 50% probability of a neonatal adverse outcome occurs when the delivery is at 281 hours from admission.

OP1-206

LAPAROSCOPIC SURGERY IN PREGNANCY AFTER THE SECOND TRIMESTER: A CASE SERIES

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Problem statement: Emergency surgery for non-obstetric indications occurs in 1-2% of pregnancies. Recent literature promotes a laparoscopic technique as a safe, feasible and optimal approach in managing the acute abdomen during pregnancy. However, concerns regarding trocar placement, the impact of insufflation pressures on utero-placental circulation and the limited exposure to these cases has prevented routine implementation of a laparoscopic approach. We present 6 cases of laparoscopic surgery in women during their second and third trimesters of pregnancy. **Method:** This was a single-centre, retrospective case series of 6 women undergoing non-obstetric emergency laparoscopic surgery after 12 weeks gestation at a busy District General Hospital in London from January 2012 - June 2019. Exclusion criteria included women undergoing an open approach or intraoperative conversion from laparoscopic to open surgery. **Result:** 6 cases of laparoscopic surgery for non-obstetric emergency indications were performed. 4 laparoscopic appendectomies were performed at 12, 20, 24 and 31 weeks gestation. 2 laparoscopic cholecystectomies were performed at 14 and 16 weeks. The median age of the women was 28 years. An open Hasson technique at the umbilicus was used for laparoscopic access in all patients. 4 cases adopted a four port technique, the remaining 2 cases used three ports. There were no post-operative complications and mean length of stay was 3 days. Median gestational age at delivery was 39.2 weeks. There were no cases of fetal loss. 3 patients had normal vaginal deliveries at term, 2 patients were lost to follow up and 1 patient's pregnancy is still ongoing. **Conclusion:** A laparoscopic surgical approach is increasingly considered a safe and optimal approach for the management of surgical pathology in pregnancy, with preservation of the benefits of laparoscopic surgery through advancing gestational age. Our case series has demonstrated successful non-obstetric, emergency laparoscopic surgery, with good materno-fetal outcomes in the second and third trimesters of pregnancy. Locally, a laparoscopic approach is increasingly considered the optimal first-line approach in appropriate patients. Input from both general surgeons and obstetricians is vital and we advocate the use of the emergency multidisciplinary team approach to facilitate discussion and joint decision making.

OP1-207

RISK FACTORS FOR SEVERE PERINEAL TEARS AMONG FIRST VERSUS REPEAT VAGINAL DELIVERY

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Problem statement: severe perineal tear(3-4 degree) is a major complication of vaginal delivery (0.3%-6.3%). The aim of our study was to evaluate the difference of risk factors of severe perineal tear between first vaginal delivery (FVD) and repeat vaginal delivery (RVD) **Method:** Study included retrospective data of women who gave birth of singleton, vertex vaginal deliveries between 2005 to 2018. 247 women had severe perineal tears and were stratified according to FVD and RVD. Common Risk factors were calculated for each group. **Results:** 77,981 women included in the study. 55,787 (71.5%) were RVD and 22,194 (28.5%) were FVD including first vaginal birth after previous cesarean section (CS). 247 of those women (0.31%) had a severe perineal tear. Multilevel logistic regression analysis demonstrate a significant association between severe tears and FVD, increased birth weight, instrumental delivery, previous CS, episiotomy, epidural anesthesia and young age. Comparing risk factors between FVD and RVD showed that higher weight of newborn was found to be a significant risk factor among FVD (OR=3.12, 95% CI [2.18-4.47]), and RVD (OR=3.57, 95% CI [2.01-6.33]). Although high weight is a risk factor for both groups, among RVD weight of risk for severe tears is 3.7Kg, while among FVD is 3.3Kg, according to the median split. In addition, instrumental delivery was found to be another risk factor for both groups, specifically among RVD (OR=3.401, 95% CI [1.33-8.69]) in comparison with FVD (OR=2.50, 95% CI [1.71-3.63]). Young age was found to be a significant risk factor among both FVD (OR=0.96, 95% CI [0.93-0.99]), and RVD (OR=0.92, 95% CI [0.87-0.96]). Previous CS was found to predict severe tears among FVD (OR=1.91,95% CI [1.24-2.93]) but not among RVD (OR=0.85, 95% CI [0.30-2.39]). Finally, episiotomy was found to be related to severe tears among FVD (OR=1.66, 95% CI [1.17-2.35]) but not among RVD (OR=0.55, 95% CI [0.26-1.16]). **Conclusion:** Birth weight, instrumental delivery and young age are significant risk factors in first and repeat vaginal delivery. While only in FVD a previous CS and episiotomy are significant risk factors.

OP1-208

PREVALENCE, RISK FACTORS AND AETIOLOGIES OF POSTPARTUM PYREXIA IN THE DOUALA GENERAL HOSPITAL, CAMEROON

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Problem statement: postpartum pyrexia (PP), defined as temperature greater than 38 °C maintained over 24 hours or recurring between the end of the first to the end of the 10th day after childbirth, is relatively common and occurs in 5–7% of births. In Cameroon, paucity of data related to PP, makes it difficult to access the actual burden it poses. This study aimed at determining the prevalence, risk factors and aetiologies of PP, in the Douala General Hospital (DGH), Cameroon. **Methods:** A 2-year hospital based retrospective cohort study was carried out in the DGH for 3 months (February to April 2019) by reviewing medical records of all postpartum admissions between the 1st January 2017 and 31st December 2018. The collected data were coded, entered into Microsoft Excel and exported to SPSS 23.0 for analysis. Chi-squared test was used to establish the association between variables, p value 0.05 was considered significant. To obtain risk factors, multivariate analysis was performed using logistic regression modelling and odd ratios (OR) at a 95% confidence interval. Aetiologies of PP, were gotten by reviewing medical records for final diagnoses, as confirmed by relevant clinical findings and investigations. **Results:** A total of 1520 postpartum files were reviewed; the mean age was 29.9 ± 4.9 years. The prevalence of PP was 8.82%. Major causes of PP were: malaria (46.7%), urinary tract infections (18.7%), puerperal sepsis (17.9%) and pneumonia (8.7%). E. coli was the most (49.3%) cultured germ from positive cultures. Five or more vaginal examinations prior to delivery (OR 59.151, 95% CI: 21.463-163.019; p<0.001), perineal tears (OR 45.157, 95% CI: 2.266-899.722; p<0.001), and duration of labour 18hours (OR 26.760, 95% CI: 7.100-100.862; p<0.001) were the most significant risk factors of PP observed after adjusting for potential confounders. **Conclusion:** Approximately 1 in every 12

postpartum cases in the DGH, presents with PP. Malaria was the leading cause of PP at DGH especially for cases registered within 3 days postpartum, and risk factors are mainly due to perinatal events. Efforts towards preventing identified risk factors thus becomes paramount in order to curb this high rate of PP in the DGH.

OP1-209

SELF-REPORTED HEALTH OUTCOMES OF DONOR CONCEIVED AND SPONTANEOUSLY CONCEIVED ADULTS Damian Adams¹, Adam Gerace², Michael Davies³, Sheryl de Lacey¹

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Problem statement: The long-term health trajectories of people conceived with reproductive technologies are of concern as observed increased incidences of poor perinatal outcomes can be considered within the Developmental Origins of Health and Disease (DOHaD) theory. Oocyte and sperm donor conceived (DC) neonates have higher risks of being born with low birth weight and preterm. However, follow up studies of DC people into adulthood have not previously been reported. **Methods:** An online survey was completed by 282 DC adults and 877 spontaneously conceived adults from around the world, who were recruited through social media, email groups, organisations involved in donor conception and various websites. Data collected incorporated respondent demographics, mode of conception (donor or spontaneous), and self-reports of professionally diagnosed medical health conditions. **Results:** We observed that compared to spontaneously conceived adults, DC adults self-reported significantly higher frequencies of diagnosis for diabetes type 1, thyroid disease, Hashimoto's disease, environmental allergies, acute bronchitis, sleep apnoea, and having ear tubes/grommets surgically implanted. DC adults also self-reported higher levels of educational attainment, lower current weight, lower BMI, and reduced prevalence of previous smoking, but greater use of prescribed medications, illicit drugs, experience of being born as a twin, and born following maternal complications in pregnancy. All other demographics and characteristics of the groups were not statistically different. **Conclusion:** This is the first study to investigate the adult health outcomes of a DC cohort. Even though the findings are exploratory, and the DC respondents may not be representative due to self-selection, they suggest that the poorer perinatal outcomes observed in DC cohorts may also be associated with poorer health outcomes in adulthood. More studies are required investigating the health trajectories of DC cohorts. **Disclosure of Interest:** The authors declare no conflict of interests.

OP1-210

ANTEROPosterior RENAL PELVIC DIAMETER ON ULTRASOUND AMONG MALE AND FEMALE FILIPINO FETUSES AT 24 TO 28 WEEKS AGE OF GESTATION: A COMPARATIVE STUDY

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Problem Statement: Prenatal diagnosis of urinary tract dilation initiates multiple pre- and postnatal evaluations because it is considered as a soft marker of aneuploidy and an indication of a possible urogenital tract obstruction. Studies report that urinary tract dilation is more common in male than in female fetuses; however, there is no available cut off value specific for fetal sex. The aim of this study is to compare the anteroposterior renal pelvic diameter (APRPD) in male and female Filipino fetuses at 24 to 28 weeks' gestation and determine the sex specific cut off values. **Methods:** The study involved 66 uncomplicated pregnant women at 24 to 28 weeks' gestation, with live, singleton



fetus. The APRPD measurements were obtained, and fetal sex was determined. At term, the APRPD were re-measured to validate that the subjects included were normal fetuses. Cross-sectional analytical study design was employed. **Results:** There was a significant difference in the APRPD between male and female fetuses at 24 to 28 weeks with a p value of ≤ 0.05 . The mean APRPD of male and female fetuses were $3.4 \text{ mm} \pm 1.1 \text{ mm}$ and $2.9 \text{ mm} \pm 0.6 \text{ mm}$, respectively, with a mean difference of 0.49 mm . A cut-off of 4.5 mm for male and 3.5 mm for female fetuses may be considered in diagnosing urinary tract dilation at 24 to 28 weeks. Upon validation at term, a significant difference was also noted in the APRPD of male and female fetuses with a p value of ≤ 0.001 . The mean APRPD of term male fetuses was $4.5 \text{ mm} \pm 0.7 \text{ mm}$ and $3.8 \pm 0.7 \text{ mm}$ for female with a mean difference of 0.65 mm . **Conclusion:** Male fetuses have larger APRPD compared to female fetuses. Thus, it is worthwhile to establish sex specific cut offs in diagnosing a urinary tract dilation. Moreover, a higher cut off value should be allowed for male fetuses while a lower threshold of suspicion should be considered in dealing with female fetuses. The cut-off values established in this study were 4.5 mm in male and 3.5 mm for female fetuses given this study population.

OP1-211

GLYCATED HAEMOGLOBIN AND RISK FOR LARGE FOR GESTATIONAL AGE NEONATES IN GESTATIONAL DIABETES PREGNANCIES

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Problem statement: Gestational diabetes (GD) is associated with multiple maternal and neonatal complications such as large for gestational age (LGA), macrosomia, prematurity and hypertensive complications. Optimal glycemic control may allow to minimize them. Glycated hemoglobin's (HBA1C) goal in GD, is usually defined as 6%. HBA1C assumes a secondary role in assessment of glycemic control since it doesn't allow to properly evaluate the postprandial glycemia described as more often associated with fetal macrosomia. In the era of the emergence of new surveillance markers for GD glycemic control, the current role of HBA1C is questioned. The aim of this study is to determine the HBA1C cutoff in identifying LGA in pregnant with GD. **Methods:** A retrospective analysis of singleton pregnancies with GD with delivery in our hospital from April 2015-July 2019 was conducted. Pregnancy, delivery and newborn data were assessed. A receiver-operating characteristics (ROC) curve was used to determine the cut-off for HBA1C in identifying LGA and area under the curve (AUC) was computed. Using the cut-off value, sensitivity, specificity, positive predictive value (PPV), negative predictive value (NPV), were computed with 95% CI. **Results:** 538 cases were identified. 48 were excluded since no HBA1C evaluation were available. Pregnant with neonates with birth weight (BW) superior to percentile 90 (BWP90) had higher levels of HBA1C on 3rd trimester. ROC curve for HBA1C as a test for BWP90 revealed an AUC on the 3rd trimester of 0.709 ($p=0.010$), on the 2nd trimester 0,68 ($p=0,151$) and on the 1st trimester 0,62 ($p=0,408$). On 3rd trimester the ROC curve coordinates indicated that the best HBA1C cutoff was 5.65 with sensibility 38,5%, specificity 93.2%, PPV 14.3% and NPV 98.1%. **Conclusion:** HBA1C measurements on 3rd trimester performed better to detect LGA. These values reflect glycemic control in mid trimester, suggesting that glycemic values on mid trimester may be more decisive on risk of LGA. Although AUC was statistically significant, it was small. The ROC curve suggested 5.65 as a more appropriate cutoff in identifying LGA, but although specificity was high, sensitivity wasn't acceptable. These results suggest that HBA1C alone is not a good indicator for LGA.

OP1-212

OXYTOCIN USE IN GRAND MULTIPARA WITH DYSFUNCTIONAL LABOR AND ONE PREVIOUS CESAREAN SECTION RESULTS IN HIGH RATE OF NORMAL DELIVERIES

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Problem statement: Dysfunctional labor is an indication for cesarean section. The aim of our study was to evaluate whether use of oxytocin in dysfunctional labor (DL) among grand multiparous (GMP) with one previous lower segment cesarean section (CS) decreases the rate for repeated cesarean section. **Patients and Methods:** During the years 2005-2017, 88,820 women delivered at our institution. 10,618 (12%) were GMP (≥ 6 deliveries) of whom 1168 (12%) had one previous CS. 1022 (87.5%) underwent spontaneous labor without augmentation and 146 (12.5%) had DL and needed oxytocin augmentation based on high risk protocol- in the range of 0.5 mU/min as starting dose, to maximum of 6 mU/min , after gradual increase of 3 mU/min every 20 min until the appearance of three regular contractions in 10 min. **Results:** In the GMP who got into spontaneous labor, _____ (91.1%) delivered spontaneously and 8.9% (91/1022) underwent repeat CS in the control group. Oxytocin use in DL among GMP with previous one cesarean section during labor, have decreased the rate of CS to be the same as the rate of spontaneous labor in the control group. group 91.8% delivered spontaneously and 8.2% (12/146) delivered by repeat CS. No major complications or rupture uterus were noted. **Conclusion:** Controlled administration of oxytocin in DL among GMP with previous one cesarean section is safe and can substantially decrease the CS rate

OP1-301

DOES IVF/ICSI CONDEMN YOU TO A CAESAREAN SECTION? A LOCAL POPULATION-BASED STUDY

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Aim: To compare the gestational age, antenatal complications and mode of delivery in an IVF/ICSI population compared to age matched controls who conceived naturally. **Methods:** IVF/ICSI pregnancies between January 2015 and June 2017 were included in the study. These cases were compared to age-matched controls who conceived naturally during the same time period. Data was collected retrospectively. **Results:** The IVF/ICSI cohort consisted of 71 patients and these were compared to a total of 710 controls. Controls were stratified according to age into three groups (25 -29 years, 30 – 34 years and above 35 years). Antenatally, 77.46% of IVF/ICSI patients were found to have some obstetric complication, the most prevalent of which was gestational hypertension (23.95%). Of the controls, 22.25% of the patients developed an obstetric complication antenatally with gestational hypertension being the commonest in the above 35 age group. The mean gestational age at delivery was 37 weeks in the IVF/ICSI cohort and 39 weeks in the controls. Emergency caesarean section (CS) was the commonest mode of delivery in the IVF/ICSI group (43.66%) and around 4% of patients had an elective CS with the indication being solely 'IVF pregnancy'. Normal vaginal delivery was the most common mode of delivery in the control cohort (58.87%). The mean birth weight was 2.65kg in the IVF/ICSI group compared to 3.25kg in the natural conception group. The rate of NICU admission was also higher in the IVF/ICSI group being 18.31% compared to 2.67% in the controls. **Conclusion:** Even when the higher proportion of multiple gestations in the IVF group was accounted for, the CS rate was higher in our local population, and this reflects global trends (Helmerhorst et al., 2004). Possible reasons may be attributed to a more defensive attitude by the caring obstetrician, intensified by parental anxiety. Even though clinician concern may be a factor in the decision to deliver by CS, an increased rate of NICU admission in IVF/ICSI babies might support this heightened concern. Conversely, the very mode of delivery may be a contributing factor to the increased NICU admission rates.



OP1-302

OPINIONS OF FRENCH WOMEN ON SURROGATE PREGNANCY AND ETHICAL ASPECTS

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Problem statement: Surrogate pregnancy is prohibited in France and in many other European countries. We aimed to investigate the opinions of French women on surrogate pregnancy before the revision of the Bioethics Laws. **Methods:** An anonymous questionnaire with 15 items was proposed to 200 women after delivery concerning their opinions about surrogacy. The study was conducted in the maternity department of the Regional Hospital Centre of Orleans. **Results:** 114 women (59%) stated that the surrogate pregnancy was ethically acceptable. 175 women (88.8%) stated that it should be legalized in France for infertility, refusal of adoption or homosexual couples' request. 65.5% of women of French origin, 34.8% from North Africa and 31.8% from Sub Saharan Africa stated that surrogacy was ethically acceptable (p0.01). 64.6% of Catholic and 28.6% of Muslim women respectively (p0.01). Among the reasons listed by participants in support of legalized surrogate pregnancy: its authorization in other countries (17%), generosity of the surrogate mother (37%), the importance of education of the child by the receiver couple (37%) and the fact that in many cases, the surrogate mother has no genetic bond with the child (34%). Reasons that women listed against legalization include unclear filiations (7%), religious prohibition (9.5%) and the psychological trauma of the surrogate mother and the child (26%). 50% of women thought that the surrogate mother should continue to have a relationship with the child. 137 participants (68.4%) believed the surrogate mother should have financial compensation. 82.8% of participants supported an age limit for the surrogate mother and 67.7% supported an age limit for the receiver couple. **Conclusion:** Most participants thought that surrogate pregnancy was ethically acceptable and was favorable to its legalization in France. Infertility was considered as the major reason for access to surrogacy. *The authors report no conflict of interest*



OP1-303

GSTT1 AND GSTM1 DELETION IS A RISK FACTOR FOR INFERTILITY IN WOMEN

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Infertility is characterized by the failure to establish a clinical pregnancy after 12 months of regular, unprotected sex or due to an impairment of a person's capacity to reproduce either as an individual or with his/her partner. GSTT1 and GSTM1 belong to the Glutathione S-transferases family, that catalyze the conjugation of oxidative stress products, environmental toxins, carcinogens and reactive electrophiles. Individuals with a homozygous deletion at the locus of these genes do not exhibit any functional enzymatic activity. A case-control study was designed to investigate the association of GSTT1 and GSTM1 gene polymorphisms with female infertility. Case subjects, 201 women with infertility established as women under 39 years of age, were enrolled between October 2015 and July 2019. 161 fertile female controls, with no previous history of infertility, no

previous history of gynecological pathologies compatible with infertility, and no previous history of IVF treatments, were selected in Obstetrics Consultation. Blood was collected by venous puncture as part of the routine analyzes. Genomic DNA was extracted. Genotyping for GSTT1 and GSTM1 was performed. We found an increased risk of developing endometriosis associated with GSTT1 null genotype (OR 5.370; 95% CI 2.684-10.742; p0.001) as well as GSTM1 null genotype (OR 2.549; 95% CI 1.301-4.998; p=0.009). We also observed an increased prevalence of polycystic ovary syndrome (PCOS) associated with deletion of GSTT1 (OR 4.890; 95% CI 2.621-9.122; p0.001). We found an increased risk of premature ovarian failure associated with GSTT1 null genotype (OR 5.182; 95% CI 2.554-10.515; p0.001) and verified an increased prevalence of tubal pathology in carriers of GSTT1 deletion (OR 6.693; 95% CI 3.385-13.233; p0.001). A strong association of GSTT1 null genotype with female infertility, regardless of the cause was found (OR 5.300; 95% CI 3.238-8.675; p0.001), as well as for GSTM1 null genotype (OR 1.620; 95% CI 1.067-2.459; p=0.026). The two-way combination of GSTT1 and GSTM1 null genotypes proved an increased susceptibility to infertility development in simultaneous carriers of the two deletions (OR 11.136; 95% CI 5.035-24.629; p0.001). In conclusion, GSTT1 and GSTM1 null genotypes, alone or in association, are associated with increased susceptibility to infertility development in women.

OP1-304

DAY-6 FROZEN-THAWED BLASTOCYSTS TRANSFER ON DAY-5 COMPARED WITH DAY-6: CATCHING UP WITH THE WINDOW OF IMPLANTATION – A RETROSPECTIVE STUDY

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Problem statement: There is growing evidence that day-5 (D-5) embryo transfer (ET) is superior to day-6 (D-6) ET. Nevertheless, freezing of embryos on D-6 is sometimes inevitable. The aim of this study was to compare clinical pregnancy rate (CPR) and live birth rate (LBR) after frozen-thawed D-6 blastocyst transfer on D-5 versus D-6. **Materials and methods:** A retrospective cohort study of a single IVF unit. Women with frozen-thawed D-6 blastocyst transfer either on D-6 or on D-5, between 8/2015-3/2019, were included in. Exclusion criteria were endometriosis according to histological diagnosis and maternal age ≥ 42 . The cycles with D-6 ET were compared to D-5 ET, stratified according to the reasons of freezing on D-6, which were either technical or embryological. Endometrial thickness was measured by transvaginal ultrasound. Blastocyst morphological grades were assessed. The primary outcome were CPR and LBR, the secondary outcomes were spontaneous abortion and chemical pregnancy rates. SPSS computer software version-24 was used for data analyses. P value 0.05 was regarded as significant. **Results:** Forty two cycles with ET were included, 21 cycles with D-6 ET with a total of 26 embryos and 21 cycles with D-5 ET of with a total of 23 embryos. There were no significant differences between the groups regarding age at ovum pickup, BMI, etiology and type of infertility, number of oocytes aspirated and blastocysts cryopreserved in the fresh cycle, reason for freezing on D-6, endometrial thickness before ET, and grade of blastocysts. There was a significant lower rate of clinical pregnancies with D-6 ET compared with D-5 ET, with 2 (8.5%) vs. 8 (38%), respectively (P=0.030). There were no significant differences in LBR, and rates of spontaneous abortions and chemical pregnancies. However, there were 6 ongoing pregnancies in the D-5 ET group at the time of collecting these data. **Conclusion:** ET of frozen-thawed D-6 embryos on D-5 compared with D-6 is associated with a higher CPR and a possible tendency toward increased LBR. These findings might be related to a time limited window of implantation with a possibility that transferring embryos on D-6 of a frozen-thawed ET cycle is too late.



	Total	Group A: ET in the 6th day = 21	Group B: ET in the 5th day = 21
Outcomes, n (%):			
Chemical pregnancy	6 (14.3)	4 (19)	2 (9.5)
Spontaneous abortion*	2 (5)	1 (4.8)	1 (6.6)
Clinical pregnancy	10 (23.8)	2 (9.5)	8 (38)
Singleton live birth*	2 (5.5)	1 (4.8)	1 (6.6)

* Six clinical pregnancies in group B were ongoing and were not included in these analyses.

OP1-305

ARE BABIES BORN THROUGH ART AT HIGHER RISK OF ANOMALIES – A POPULATION BASED STUDY

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Problem statement: To compare the rate of congenital fetal anomalies in babies born through artificial reproductive techniques (ART) vs those born through spontaneous conception. **Methods:** A retrospective cohort study was done including 71 babies born through transfer of cleavage stage embryos through IVF/ICSI between January 2015 to June 2017 in Malta. The incidence of congenital anomalies was identified and compared with 710 naturally conceived infants born to age matched mothers (controls) through the same time period. Data was collected through the National Obstetric Information System database (NOIS). No PGD is allowed in Malta, and genetic testing on the couple and counselling for major genetic diseases is done prior to stimulation for IVF. **Results:** Out of the 71 babies born through ICSI, 6 (8.45%) had a congenital anomaly diagnosed at birth and 13 (18.31%) required NPICU admission. Of the 710 babies born through spontaneous conception, 34 (4.79%) were diagnosed with a congenital anomaly and 19 (2.68%) required NPICU admission. Average birth weight of 2.65kg in the ART group and 3.25kg in the control group. The incidence of multiple gestation in the ART group was higher than the control group (25% vs 2%). Average maternal age was 35 years in both the ART and naturally occurring pregnancy group while mean BMI was 26.48 in the study group and 25.07 in the control group with 6% being smokers in the control group and 3% in the ART group. **Conclusion:** Concerns about fetal outcomes of babies born through artificial reproductive techniques (ART) including In-Vitro Fertilisation (IVF) and Intracytoplasmic injection (ICSI) have been studied with conflicting conclusions (Fauser *et al.*, 2014; Lacamara *et al.*, 2017). In this population-based study, babies born through ART had higher congenital anomaly rates than babies born through spontaneous conception, however rate of twinning was also higher in the ART group. Therefore, one can say that ART is associated with a higher incidence of congenital anomalies, however it does not necessarily prove direct causality. Single embryo transfer protocols could improve this outcome.

OP1-306

EVALUATION OF AGE, AMH AND AFC AS PREDICTORS OF OVARIAN RESPONSE TO TREATMENT IN IVF CYCLES

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Problem: Infertility is becoming an increasingly important branch of gynaecological practice as more and more women are postponing childbearing. One of the matters of great interest to both patients and clinicians alike is how the ovaries will respond to treatment during an IVF cycle. Ovarian reserve has long been recognised as one of the key players when it comes to response to treatment and a lot of effort is being put into trying to determine the best biomarker for it. The objective of this study was to identify which among age, anti-Mullerian hormone (AMH) and antral follicle count (AFC), performs best at predicting how the patients will respond to treatment during IVF treatment. **Methods:** This was a retrospective correlational non-experimental study, where 117 patients were assessed for age, AMH, and AFC. Data was collected for the number of oocytes

retrieved at pick up, the dose of follicle stimulating hormone (FSH) used during stimulation, the duration of stimulation in days, as well as pregnancy rates. Regression analysis was applied to the data to try and determine which of the biomarkers was the strongest predictor of ovarian response. **Results:** Assessed separately, all three markers were useful at predicting the number of oocytes retrieved. Used collectively, however, AFC emerged as the strongest one (p-value 0.000). For the dose of FSH used, all markers used singly were significant, but used together, the predictive effect was less strong than for oocyte number. The markers were not useful at predicting how long stimulation would take, or which of the patients would get pregnant. This has significant implications when it comes to counselling women prior to the start of their treatment as all three biomarkers have become standard tests in the work up prior to IVF. **Conclusion:** All three markers were useful during an IVF cycle but in this study, AFC emerged as the strongest marker for prediction of ovarian response to treatment across the entire menstrual cycle.

OP1-307

CORRELATION BETWEEN SPERM DNA DEFECTS AND MUTATIONAL STATUS OF THE MTHFR GENE; IMPACT OF TREATMENT

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Problem statement: DNA fragmentation index (DFI) is involved in some AMP failures (Spano 2000, Saleh 2003). Anomalies in the decondensation of sperm DNA lead to early stage developmental failure and recurrent AMP failures (Junca, 2012). Polymorphisms of MTHFR increases the risk of male infertility (Gong, 2015). MTHFR gene is involved the one-carbon cycle (1-CC): it allows the synthesis of antioxidant molecules and improves the methylation of DNA, which plays a key role in epigenetic and fingerprint defects. 5-methyltetrahydrofolic acid (5MTHF) treatments allow to restore the activity of the cycle, as evidenced by the decrease in homocysteine after treatment. (Clement, 2018). **Methods:** The MTHFR gene mutation research was conducted by real-time PCR. Sperm DNA analysis is performed according to the SCSA (Sperm Chromatin Structure Assay) protocol. Men carrying the mutation were treated with 5MTHF 400 µg for a minimum of 3 months, and the variations of the sperm DNA parameters (fragmentation and decondensation) were measured before and after treatment. **Results:** In our infertile population, 700 patients benefited from MTHFR gene mutation research and sperm DNA defects. The 677 polymorphism of the MTHFR gene is correlated with both fragmentation and decondensation of sperm DNA (p 0.05). The 1298 polymorphism of the MTHFR gene is correlated with fragmentation of sperm DNA (p 0.05) but not with decondensation. Among the patients who received treatment with 5MTHF, 68 had a search for spermatid DNA abnormalities before and after treatment. The treatment resulted in a significant decrease in sperm DNA fragmentation (from 24.0 to 13.7%, p 0.05) and a non-significant decrease in decondensation (19.4 to 16.6%, NS). **Conclusion:** There is a correlation between sperm DNA and mutational status of the MTHFR gene. In order to prevent failures and improve ART outcomes, patients with high fragmentation or decondensation and patients with a mutation in the MTHFR gene could benefit from a search for isoforms of the gene and they could then be treated with 5MTHF to improve the parameters of their gametes and their fertility.

OP1-308

PROGESTIN-PRIMED OVARIAN STIMULATION (PPOS) PROTOCOL FOR IN VITRO FERTILIZATION, OOCYTE DONORS OR FERTILITY PRESERVATION SYSTEMATIC REVIEW AND META-ANALYSIS

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Problem statement: Standard ovarian stimulation for IVF requires GnRH agonists or antagonists to prevent a premature LH surge. In recent years, several authors have suggested the safety and efficacy of different oral progestin preparations in preventing premature LH surges, thus reducing the amount of injections and the cost of treatment. **Methods:** A systematic search of the literature was conducted in PubMed, EMBASE, Web of Science, and Cochrane databases. Search words employed were: "progestins", "In Vitro Fertilization" "ovarian stimulation" and "progestin-primed". RevMan 5.3 software was used for quality assessment of studies and statistical analysis. **Results:** Ten studies were included in the meta-analysis. Five of them were prospective (two Randomized Controlled Trials and three controlled studies) and five were retrospective studies. Due to methodological and clinical heterogeneity among studies, random effects model was used. There were no significant differences between the two protocols regarding number of recovered oocytes (mean difference (MD)=0.43, 95 CI:-1.09-0.22, N=1448, 8 studies); Metaphase II oocytes (MD=0.1, 95%CI: -0.8,0.67, N=1275, 5 studies) or follicles14 mm (MD: 0.67; 95% CI -0.24,1.58, N=614, 3 studies). Stimulation length was higher in the PPOS group (MD=0.42 95 CI: 0.22-0.61, N=2046, 10 studies) but differences in gonadotrophins consumption were not significant (MD=39.65 95% CI:-84.34-63.63, N=614, 4 studies). No differences were found regarding good quality embryos (MD=0.39, 95% CI:-0.28,1.05, N=420, 2 studies) or cycle cancellation rates (OR: 1.36, 95% CI:0.67,275, N=486, 2 studies). **Conclusions:** According to the best available evidence, PPOS protocol is not inferior to the standard protocol with GnRH agonists or antagonist in terms of stimulation efficacy, safety and clinical results. PPOS protocol may be convenient in certain subgroups of patients as oocyte donors, fertility preservation cycles or when freeze-all policy is the first choice as it may reduce costs and burden of treatment.

OP1-309

PREVENTIVE STRATEGIES FOR PREOVULATORY PROGESTERONE ELEVATION DURING OVARIAN STIMULATION FOR IN VITRO FERTILIZATION

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Problem statement: Elevated preovulatory serum progesterone (P) is frequently observed during the late follicular phase at the end of ovarian stimulation on the day of ovulation triggering with human chorionic gonadotropin (hCG) during the *in vitro* fertilization (IVF) cycle. The incidence of premature P rise varies widely from 13% to 71% depending on definition, cut-off level of P, stimulation protocols and population characteristics. The purpose of this review is to present contemporary measures for preventing the preovulatory P elevation and its adverse effects on ovarian stimulation in IVF. **Methods:** Review article of the current scientific research on preventive strategies for preovulatory P elevation during ovarian stimulation for IVF. **Results:** The increase of preovulatory P is not fully understood in terms of its impact on pregnancy outcome after IVF. Some studies failed to establish a connection between the preovulatory P increase and a successful IVF outcome, while, most other studies have found its adverse effects. It is now accepted that P prematurely opens the window of implantation and modifies endometrial receptivity, leading to defective implantation and decreased pregnancy rate. Current strategies include the use of mild stimulation protocols and early application of hCG for

ovulation induction among good responders, as they are associated with lower estradiol levels, delay in the transfer of fresh embryos from 3rd to 5th day, and cryopreservation of all embryos with the embryo transfer (ET) in the natural cycle. An earlier hCG trigger, when follicles reach a diameter of 15-16 mm is associated with lower preovulatory P but not with better ongoing pregnancy rates. A better implantation rate and IVF outcome with day 5 as compared with day 3 single ET has been found; the selection of blastocyst transfer seems to be justified. The cryopreservation of all embryos and a subsequent transfer in a natural cycle has increased the success rates in IVF cycles. **Conclusion:** Further studies are needed to confirm the current preventive methods or enable the application of new strategies in order to lower or eliminate the detrimental effects of preovulatory P rise during ovarian stimulation in IVF. All the authors have nothing to disclose.

OP1-310

EFFECTS OF CONTROLLED OVARIAN HYPERSTIMULATION ON THE EXPRESSION OF ENDOMETRIAL TISSUE GLYCodelin-A DURING MIDLUTEAL PHASE OF MACACA NEMESTRINA

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Problem statement: The success rate of IVF is still considered low, about 30% will result in birth. Numerous factors determine the success of IVF, one of those is endometrial receptivity. One of the crucial steps of IVF is the controlled ovarian hyperstimulation (COH), in which the protocol may decrease the receptivity of the endometrial tissue. The protocol will cause the body to release multiple follicles, reaching the superovulation state, and it can alter the expression of molecules such as glycodeilin-A. **Methods:** Paraffin-embedded tissue blocks of Macaca nemestrina (macaques) uterus are used for this study. The subjects that are included consist of 15 female Macaca nemestrina, all on reproductive age of 8-10 years with history of birth. The subjects were then divided into four groups; control group (GnRH agonist with no recombinant follicle stimulating hormone (r-FSH)) and three intervention groups (with r-FSH of 30 IU, 50 IU and 70 IU). The tissues were then retrieved 7 days after the stimulation and were embedded into paraffin blocks. Afterwards the tissues were stained using immunohistochemistry, and then the expression was determined by IHC profiler and counted semiquantitatively as H-score. **Results:** The result of one-way ANOVA shows that the differences of glycodeilin-A expression in the endometrial glands (F (3,10) = 0.803, p = 0.520), stromal (F (3,11) = 0.915, p = 0.465), and the luminal parts of the tissue (F (3,8) = 0.991, p = 0.445) between the groups are insignificant. The insignificance of the differences may result from the indirect nature of relationship between FSH and glycodeilin-A, since it is mediated by estrogen and progesterone. The result may also be explained by the 7-day interlude between the administration of GnRH and r-FSH and tissue retrieval, due to the latter half-life of only 24 hours. The limitation of our study is the low number of subjects due to the dwindling number of Macaca nemestrina in Indonesia. **Conclusion:** The glycodeilin-A expression in endometrial tissues are not significantly affected by COH protocol, specifically the administration of r-FSH. Further study regarding the effect of estrogen and progesterone on glycodeilin-A concentration is needed.



OP1-401

PHALERIA MACROCARPA'S EXTRACTS INHIBITS AUTOPHAGY PROBABLY THROUGH MDA IN HUVEC CELL CULTURELeo Simanjuntak¹, M Fidel Ganis Siregar², Johannes C Mose³, Sarma N Lumbanraja²¹Department of Obstetrics and Gynecology, Universitas HKBP Nommensen, Medan, Indonesia²Department of Obstetrics and Gynecology, Universitas Sumatera Utara, Medan, Indonesia³Department of Obstetrics and Gynecology, Universitas Padjadjaran, Bandung, Indonesia

Problem statement: The etiopathogenesis of preeclampsia remains unclear but endothelial dysfunction is one of the leading theories. Increased oxidative stress and lipid peroxides and reduced antioxidants play important role in the pathophysiology of preeclampsia. Malondialdehyde (MDA) is the final product of lipid peroxidation, used as the oxidative stress marker. Autophagy plays an important role in the pathophysiology of preeclampsia as observed in the failure of trophoblast invasion and spiral artery remodelling. LC3-II is used as a typical marker of autophagosome formation in autophagy. HUVEC (Human Umbilical Vein Endothelial Cell) culture is an in vitro model widely used to study the pathogenesis of preeclampsia. *Phaleria macrocarpa* (Scheff.) Boerl also known as Mahkota Dewa in Indonesia is widely used as an anti-inflammation and antioxidant.

Methods: This study used HUVEC culture as an in vitro model and *Phaleria macrocarpa*'s extract, to determine the effects of *Phaleria macrocarpa* (Scheff.) Boerl extract on oxidative stress and autophagy in endothelial cells by measuring the MDA and LC3-II level in preeclampsia-induced HUVEC. **Results:** *Phaleria macrocarpa*'s extract reduce MDA level significantly at concentration of 3.906 µg/mL and at 15.625 µg/mL reduce MDA level to normal level. There was no significant decrease in mean LC3-II levels between control and PE model and *Phaleria macrocarpa*'s extract at concentration more than 250 µg/mL needed to reduce LC3-II level in preeclampsia model to normal pregnancy level. MDA have strong positive correlation with LC3-II ($r = 0.847$). The correlation between values indicates that when reduced MDA level, a proportional decrease in LC3-II levels also occurs, where a decrease in MDA level of 1 pmol/mL will reduce LC3-II levels by 0.222 pg/mL. **Conclusion:** Thus, *Phaleria macrocarpa*'s extract might be used to overcome oxidative stress and autophagy in preeclampsia. **Disclosure of Interest:** The authors whose names are listed above certify that they have no affiliations with or involvement in any organization or entity with any financial interest (such as honoraria; educational grants; participation in speakers' bureaus; stock ownership, or other equity interest), or non-financial interest (such as personal or professional relationships, affiliations, knowledge or beliefs) in the subject matter or materials discussed in this manuscript.



OP1-402

A MULTI-CENTRE ANALYSIS OF THE INCIDENCE OF SECOND STAGE (FULLY DILATED) CAESAREAN SECTIONSAsad Rahim¹, Christina Cotzias²¹Obstetrics and Gynaecology, St. Mary's Hospital, Imperial College NHS Trust, London, UK²Obstetrics and Gynaecology, West Middlesex Hospital, Chelsea and Westminster NHS Trust, London, UK

Problem statement: Caesarean sections performed at full dilatation (FDCS) often involve disengagement of a deeply impacted fetal vertex and as such, can be the most challenging type of delivery for the obstetrician and can result in greater maternal morbidity. FDCS are becoming more commonplace, however data on incidence remains sparse and can sometimes be misleading if an individual maternity unit has a high elective or first-stage caesarean section rate. This study aims to collate data from multiple maternity units and propose alternative methods for representing the incidence of FDCS. **Methods:** Data was collated from six maternity units in North-West London over

twelve months. Total number of deliveries, numbers of fully dilated, first-stage and elective caesarean sections as well as spontaneous vaginal and assisted vaginal deliveries were recorded for all singleton pregnancies. Three indices were calculated using this data: (1) FDCS as a proportion of all births, (2) FDCS as a proportion of all labouring women [i.e. excluding elective caesarean sections] and, (3) FDCS as a proportion of all women who reach full dilatation [i.e. excluding all first-stage and elective caesarean sections]. **Results:** There was a total of 28,867 deliveries in North-West London over the twelve-month study period. This consisted of 15,469 spontaneous vaginal deliveries, 4171 assisted vaginal (instrumental) births, 3797 elective and 5430 emergency caesarean sections. Of the emergency caesarean sections, four hundred and ninety-three were performed at full dilatation. This represented 1.7% of all births (range: 0.8 – 2.2%), 2.0% of all labouring women (range: 0.9 – 2.4%) and 2.5% of all women who reached full dilatation (range: 1.0 – 2.9%). **Conclusion:** To our knowledge, this is the first multi-centre analysis of the incidence of FDCS. Second-stage caesarean sections remain relatively common and therefore safe delivery of a deeply impacted fetal vertex should continue to be an essential component of obstetric practice. This study has suggested that by representing FDCS as a proportion of all labouring women or as a proportion of those who reach full dilatation, maternity units can better analyze how they manage the first and second stages of labour, respectively. **Disclosure of interest:** None declared

OP1-403

OF PREGNANCIES COMPLICATED WITH SMALL FOR GESTATION AGE BABIES AT TERM, WHAT PROPORTIONS HAVE PLACENTAL FINDINGS WITH IMPLICATIONS FOR FUTURE PREGNANCIES OR NEONATAL OUTCOMESRoberto Orefice¹, Alison Kent², Farah Sethna¹, Jane Dahlstrom³¹Fetal Medicine Unit, Centenary Hospital for Women and Children, Canberra, Australia²Department of Neonatology, The Canberra Hospital, Canberra, Australia³Department of Anatomical Pathology, The Canberra Hospital, Canberra, Australia

Problem statement: To identify the proportion of term pregnancies complicated by SGA with placental findings that may have implications for future pregnancies or neonatal outcomes. **Methods:** A retrospective review between 2011-2015 of babies and placentas born at term with SGA. Histopathological findings were categorised as to whether they had a high recurrence rate and where long term neurodevelopmental outcome may effect the neonate. **Results:** 698 babies were identified as SGA. Only 335 (47.8%) placentas were sent for histopathological assessment. Of these, 60 (17.9%) had histopathological findings associated with high recurrence rates and 68 (20.2%) had findings associated with potential adverse neonatal outcomes. **Conclusion:** Of those placentas sent for examination between 17.9-20.2% had findings associated with either high recurrence rates or findings that may benefit from neonatal follow up. Under 50% of pregnancies complicated by SGA at term had a placental examination, resulting in a significant number of potential important clinical consequences being missed

OP1-404

POSITIVE PREGNANCY OUTCOME IN WOMEN WITH PHENYLKETONURIA IS POSSIBLE!Zhao Xuan Tan¹, Nandini Halder², Roopam Goel²¹Medical Education, Cardiff University, Cardiff, UK²Obstetrics and Gynaecology, Glangwilli General Hospital, Hwyl Dda University Health Board, UK

Introduction: Phenylketonuria (PKU) is a rare autosomal recessive hereditary metabolic disorder with a prevalence of approximately 1: 10,700 newborns in Wales, UK. **Case:** 37-year-old G3 P1+1 lady with congenital PKU, BMI of 38.8 kg/m² is presently 27 weeks pregnant. She had a positive outcome in her last pregnancy following commendable effort from her clinicians combined with her compliance. Patient had optimised

phenylalanine (PHE) levels with excellent adherence to PKU treatment prior to and throughout her last pregnancy. At 20 weeks gestation, tyrosine supplements were arranged due to low tyrosine levels 50µmol/L, she also developed hypothyroidism in pregnancy. At 30 weeks, she was referred to Fetal Medicine Unit with suspected fetal growth restriction and was delivered by elective caesarean section at 37⁺⁵ weeks for the same reason. Baby was born with good apgars weighing 2.3kg with no intrapartum or immediate postnatal complication. Both were discharged home after day 2. **Discussion:** PKU is due to an inborn error of PHE metabolism caused by variants in the gene encoding phenylalanine hydroxylase (PAH) that converts PHE into a nonessential amino acid called tyrosine. This leads to toxic level of accumulation of PHE in the blood and brain with by-products phenylpyruvic acid and phenylethylamine, which are neurotoxic. High levels of PHE can cause irreversible intellectual disability, motor deficits, eczematous rash, autism, seizures, developmental problems, aberrant behaviour and psychiatric symptoms. It has teratogenic effect on the developing fetus that can cause growth retardation, microcephaly, intellectual disabilities, birth defects including congenital heart defects or even fetal demise. Low PHE diet with PHE-free L-amino acid supplements are the cornerstones of PKU treatment. **Conclusion:** Family planning and preconception counselling are crucial to woman with PKU. Maintaining normal plasma PHE levels 300µmol/L from at least two weeks prior to conception and throughout pregnancy improves the chances of favourable obstetric outcome.

OP1-405

CASE OF HETEROTOPIC PREGNANCY (OVARIAN AND INTRAUTERINE) IN A 30-YEAR-OLD PATIENT

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Problem statement: Heterotopic pregnancy is the presence of simultaneous pregnancies in two different implantation sites. Oviduct is the most frequent location of extrauterine pregnancy coexisting with intrauterine pregnancy, and is followed by pregnancy in the ovary. **Method:** This is a 30 year old, Gravida 2 Para 1 (1001), with a chief complaint of severe abdominal pain. Ultrasound revealed: *Single live intrauterine pregnancy 6 weeks 6 days AOG by crown-rump length; Good cardiac activity; Cystic right ovary 5.8x5.8x5.9 cm; Left ovary 2.9x3.2x2.5 cm with a unilocular anechoic cystic structure 1.4x1.7 cm; Suspicious of hemorrhagic corpus luteum. Adherent to the left ovary is a heterogeneous echogenic structure measuring 10.1x7.4x6.5cm (volume of 257.86 ml); suggestive of blood/ blood clots.* Patient underwent Emergency Exploratory Laparotomy with bilateral oophorectomy. Histopathology revealed *Ovarian pregnancy, Left ovary; Hemorrhagic corpus luteum, Left ovary and Serous cyst, Right ovary.* **Result:** Heterotopic pregnancy is the presence of simultaneous pregnancies in two different implantation sites. Ovarian ectopic pregnancy is a rare variant of ectopic implantation. Incidence after natural conception is 1 in 2,000 to 1 in 60,000 deliveries. It develops as a result of secondary implantation or failure of follicular extrusion. Rarely, ovarian pregnancies can be part of a heterotopic pregnancy or twin ovarian pregnancy. Diagnosis of an ovarian pregnancy is based on the following: 1. Ipsilateral tube is intact and distinct from the ovary; 2. Ectopic pregnancy occupies the ovary; 3. Ectopic pregnancy is connected by the uteroovarian ligament to the uterus; 4. Ovarian tissue is demonstrated histologically amid the placental site. Treatment could either be medical or surgical management. Medical management however is not feasible as it may affect the intrauterine gestation. **Conclusion:** Heterotopic pregnancy, requires a high index of suspicion for early and timely diagnosis. Prompt intervention will result in a successful outcome for the intrauterine fetus, prevent tubal rupture and hemorrhagic shock. Ovarian ectopic pregnancy is rare, associated with high morbidity and adverse consequences for future fertility. Here we present a case of a completely removed intact ovarian ectopic pregnancy and intrauterine pregnancy was not affected after the surgical intervention.

OP1-406

MANAGEMENT OF A PARAGANGLIOMA IN PREGNANCY

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Problem statement: Paragangliomas are made of neural crest cells and arise from the extra-adrenal parasympathetic and sympathetic paraganglia. Catecholamine secreting tumors, including paragangliomas and pheochromocytomas, are very rare in pregnancy with less than 250 cases documented in the literature. Typically, paragangliomas are discovered during an evaluation of paroxysmal symptoms of flushing, tachycardia, severe headaches, and tremor, a workup of uncontrolled severe hypertension, or incidentally found on radiographic evaluation of an unrelated condition. Fractioned plasma and urine metanephrines, although not validated in pregnancy, are typically used to evaluate for catecholamine secreting tumors and would be significantly elevated. Definitive treatment for pheochromocytomas and paragangliomas is surgical resection. In pregnant patients, careful consideration must be applied to maternal and fetal well-being in regards to timing of this excision. Sparse literature is available regarding early diagnosis in pregnancy and conservative management with alpha and beta blockade throughout the duration of pregnancy. **Methods:** A twenty-two year old primiparous patient at five weeks gestation with known chronic hypertension was diagnosed with an incidentally found 3.7cm retroperitoneal tumor concerning for pheochromocytoma versus paraganglioma. After evaluation and counseling, the patient decided upon conservative management with alpha and beta blockers throughout pregnancy. **Results:** Subsequent increases in her medication regimen of phenoxybenzaine and propranolol controlled symptoms of fatigue, lightheadedness, palpitations, and headaches. Surgical resection of her retroperitoneal mass was scheduled at time of planned primary cesarean section at 37 weeks gestation. The patient underwent an uncomplicated surgical procedure and postoperative course. Both her and the infant did very well. **Conclusion:** In this case, a paraganglioma was diagnosed early in pregnancy and conservatively managed with alpha antagonists and beta blockers. Although safe surgical resection has been documented in the second trimester for catecholamine secreting tumors, her resection was coordinated at time of cesarean section resulting in good outcomes for both the fetus and mother. Careful patient selection and informed consent is foremost when determining a health care plan for a patient with a paraganglioma in pregnancy and the collaboration of a multi-disciplinary team is paramount. **Financial Disclosure:** The authors declare that there is no conflict of interest to disclose.

OP1-407

PREDICTIVE VALUE FOR SPONTANEOUS PRETERM BIRTH IN WOMEN PRESENTING WITH PRETERM LABOR: COMPARISON OF PLACENTAL ALPHA MICROGLOBULIN-1 AND FETAL FIBRONECTIN ACCORDING TO THE CERVICAL LENGTH

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Problem statement: The purpose of this study was to compare the placental alpha microglobulin-1 (PAMG-1) and fetal fibronectin (FFN) for prediction of spontaneous preterm delivery among women with symptoms of preterm labor and to investigate the difference in predictive performance of both rapid bedside tests according to the cervical length. **Methods:** We conducted a retrospective cohort study on pregnant women with signs or symptoms suggestive of preterm labor between 22+0 and 33+6 weeks of gestation from April 2012 to December 2018



in the Seoul Saint Mary's hospital. Singleton pregnant patients with clinically intact membranes and cervical dilatation less than 3cm were selected for chart review and included in the analysis. Positive predictive value (PPV), negative predictive value (NPV), sensitivity and specificity of PAMG-1 were compared with FFN for the prediction of spontaneous preterm birth (SPB) less than 37 weeks of gestation and delivery within 7 days of PAMG-1 and FFN testing. In addition, the test performances were compared according to the severity of cervical length shortening. **Results:** 589 women were included in the study cohort. The rate of SPB was 20.4% (129/589) and the rate of delivery within 7 days of testing was 5.1% (30/589). The detection rate of PAMG-1 and FFN were 6.5% (38/589) and 34.1% (201/589), respectively. The PPV for the prediction of SPB for PAMG-1 and FFN were 51.4% and 32.1%, respectively ($P=0.028$); the PPV for prediction of delivery within 7 days of testing for PAMG-1 and FFN were 23.7% and 9.5%, respectively ($P=0.012$). The results were analyzed according to the severity of cervical length shortening. The group with cervical length between 15 and 25 mm, the PPV for PAMG-1 and FFN were 20% and 5.4%, respectively ($P=0.046$). **Conclusion:** In singleton pregnant women with a cervical length between 15 and 25 mm, the PPV of PAMG-1 was significantly higher in the prediction of SPB within 7 days of testing than that of FFN. **Disclosure:** No potential conflicts of interests.

OP1-408

EVALUATION OF EFFICIENCY OF MYOMECTOMY DURING CESAREAN SECTION

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Problem statement: Myomectomy during the cesarean section was overlooked in the obstetric literature till the last decade, as only articles, that do not provide large-scaled randomized studies, were devoted to this topic. The main objective of the study is to evaluate the relevance of adjunct myomectomy in the cesarean section. **Methods:** In previous studies mainly was not mentioned about the identicalness of a surgical team that directly affects the duration of operation. The duration of the operation is a significant measure of the research, due to the relationship between an operation's duration and blood loss. The study investigates 37 cases of pregnant women with myoma. In the designed study 21 women referred to as the main group was compared to a control group consisting of 17 pregnant women. All 21 women in the main group underwent myomectomy during the cesarean section, while the 17 others underwent only cesarean section. Age, gestational age, parity of pregnant and myomas' size were taken as the main aspects impacting the results of the operation. All operations were performed by the same surgical team. The below-stated measures were used during operations for research: blood loss, duration of operation, duration of hospital stay, blood transfusion. **Result:** The average blood loss in the main group is 500 ml, while in the other group it is 430 ml. The mean size of the duration of operation in the main group is registered 52 minutes, and in the control group, it is 36 minutes. The duration of hospital stay on average is 3.14 days in the initial group, while for the compared group the study showed an average of 3 days. The hemotransfusion was registered in 2 cases of the main group and 1 case of control group. The outcomes show that differences between the operation of myomectomy simultaneously with cesarean section and cesarean delivery alone are not significant. **Conclusion:** The adjunct myomectomy cesarean section is safe and efficient, as it improves life quality, prevents postoperative complications caused by myomas. Furthermore, it diminishes the risk of atony and premature birth in subsequent pregnancies.

OP1-409

OBSTETRIC PERFORMANCE OF HUGE BABIES (4800GM)

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Problem statement: Practically all huge babies have underestimated sonographic fetal weight. This study shows the outcome of 56 such babies born in Myney Hayeshua Medical Center. **Methods:** This is a retrospective cohort. All information was gathered from patients' electronic files between 2012 and 2018. **Results:** Fifty six huge babies (4800gm) were born in a six year period in Myney Hayeshua Medical Center which composed approximately 1:1000 babies born. Patients were in their first to eighth delivery. One fifth of these babies were girls and the rest boys. Only 11 babies were delivered by Cesarean delivery, the rest vaginally. There were five documented cases of shoulder dystocia with two clavicular fractures and two cases of transient Erb's Palsy. In all of the cases there was underestimation of the fetal weight prior to delivery. Seven cases of maternal diabetes mellitus and six cases of maternal morbid obesity were found. All of the cases (of multiparas) had documented previous maximal birth weight and all had a recent estimated fetal weight. **Conclusion:** Huge babies are often born with minimal difficulty and very large babies almost always have underestimated fetal weight.

OP1-410

CAN PRAVASTATIN / L-ARGININE THERAPY IMPROVE PLACENTAL PERFUSION AND UMBILICAL ARTERY VASCULAR RESISTANCE IN SINGLETON PREGNANCIES ?

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Objective: Analysis of therapeutic effects of pravastatin /L-arginine therapy on improvement of placental perfusion and decrease of umbilical artery vascular resistance in singleton pregnancies with increased umbilical artery pulsatility index for gestational age. **Methods:** In this study 12 pregnant patients, with isolated increased umbilical vascular resistance and normal uterine artery doppler findings, were included. Pravastatin 40mg / L-arginine 1500mg per day, was administered when umbilical artery pulsatility index was measured above limits for gestational age. Patients were scanned in 2-4 week interval to follow up changes in vascular resistance in umbilical artery. **Results:** 12 pregnant patients had singleton pregnancy. Median gestational age, when increased umbilical vascular resistance was detected and therapy introduced, was 23 weeks (18-30 weeks). Therapy was introduced when PI values in the umbilical artery were above normal limits for gestational age. Improvement of umbilical artery PI values was confirmed in 11 patients. Median period of improvement in umbilical circulation was 2 weeks. Fetal cerebral, aortal, renal circulation and uterine arteries vascular resistance remained normal throughout pregnancy. Median gestational age at delivery was 40 weeks. Median 1/5 min Agar score was 9/10. 11 neonates were born without signs of intrauterine asphyxia. Mean neonatal weight was 3331±389g. In one patient, who had normal umbilical artery vascular resistance until 30th week, therapy was introduced after significant rise of umbilical artery PI to 1.5. Fetal condition was intensively monitored and umbilical artery PI values continued to rise until 35 weeks when AEDV occurred. Fetal cerebral circulation showed initial blood redistribution towards central nervous system. Pregnancy was carefully monitored and, when cardiocographic monitoring indicated imminent asphyxia, cesarean section was performed at 35 weeks of pregnancy. Neonatal weight was 2400g, Apgar score was 7/8. Histopathological examination of the placenta confirmed placental infarction. **Conclusion:** In patients with isolated increased umbilical artery vascular resistance, increased placental perfusion and decreased vascular resistance in umbilical arteries was achieved after administration of Pravastatin 40mg/L-arginine1500mg daily. Administration of this therapy reduced the incidence of premature delivery due to fetal asphyxia.



OP1-411

VAGINAL MICROORGANISM AND ITS INFLUENCE IN PRE-TERM DELIVERY

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Problem statement: Preterm delivery (PTD), a leading cause of morbidity and mortality, occurs in 5-18% of pregnancies. Several studies reported an association between PTD and infection. However, the association remains controversial. The aim of this study is evaluating the cases of threatened preterm labour (TPTL) of our unit and the association with vaginal exudates results. **Methods:** Retrospective study of TPTL pregnancies admitted at our unit. Maternal age, cervical length, PTD history, cervical conization, gestational age at diagnosis and delivery, type delivery, Apgar score, birth weight and microbiologic vaginal results – *mycoplasma* and microbiologic smear were assessed. **Results:** We assessed 97 cases of TPTL. In 39 cases there was at least one positive vaginal smear *Mycoplasma* was the most frequently agent identified (19 cases). When comparing the positivity of any microbiologic test with the gestational age ($t=1,5$; $p=0,13$) and cervical length ($t=0,8$; $p=0,42$) at diagnosis there were no differences. In individual analysis, women with positive *mycoplasma* test had inferior gestational age at diagnosis compared with women negative cases ($t=2,2$; $p=0,50$). The age of birth did not differ in function of *mycoplasma* smear result ($t=3,52$; $p=0,72$). In other hand a positive test to SGB, *candida albicans* and microbiological culture showed a lower mean age of birth ($t=2,7$; $p=0,01$; $t=3,1$; $p=0,01$; $t=3,03$; $p=0,01$), with no difference in the age of the diagnosis ($t=1,24$; $p=0,15$; $t=1,62$; $p=0,3$; $t=0,04$; $p=0,96$). In 81,4% the delivery occurred vaginally, in 11,9% the fifth minute Apgar score was equal or below 7. In 23%, foetal weigh was below the tenth percentile. **Conclusion:** In our study, we found differences in the gestational age of TPTL diagnosis according to mycoplasma presence. The labour was earlier in women with positive microbiological vaginal smear. In the cases of TPTL we also find a foetal weight below the tenth percentile more often than in the normal population, that could be a marker of placental insufficiency. These findings reflect the multifactorial aetiology of PTD. More studies need to be made to find markers that can predict specific pathway of disease in TPTL. Treatment and costs implications were not assessed, but must be taken in consideration.

OP1-412

IS 3D OMNIVIEW ULTRASOUND HELPFUL FOR DIAGNOSIS OF FETAL CLEFT PALATE?

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Objectives: To analyse the diagnostic value of 3D Omniview Ultrasound in analysis of fetal face and diagnosis of cleft palate in second trimester of pregnancy. **Methods:** In this study 350 patients with normal pregnancy were included. Patients were scanned on GE E10 ultrasound with RM6C transabdominal probe. The analysis of fetal face in Omniview technique was performed from the volume obtained from fetal profile position. After obtaining fetal face image in surface rendering, the analysis was continued in Omniview mode. First plane represented frontal face section with retranasal triangle. In the second plane fetal lips, maxilla and palate were analysed. In the third plane fetal mandible was reconstructed. In 3 patients referred with suspected fetal cleft palate we performed the same procedure. **Results:** In 350 patients we did not detect any abnormality of fetal face and we followed them up until delivery. No abnormality of fetal face was confirmed on delivery.

In 3 patients who were referred with suspicious fetal cleft we performed detailed analysis of fetal face in 3D surface rendering mode and also in 3D Omniview mode. Utilizing Omniview procedure, we confirmed unilateral cleft of lip and palate in two patients and bilateral cleft lip and palate in one patient. The defects were visible in retranasal triangle plane. The cleft lines were visible in the second Omniview plane. We compared Omniview technique with other relevant 3D diagnostic procedures like Reverse view and Flipping image. The advantage of Omniview procedure is that in this mode the anomaly can be evaluated in minimum two directions in order to increase the diagnostic accuracy. No other anomalies of fetal organs were detected on detailed ultrasound scan in second trimester. We performed genetic analysis in all patients with clefts and excluded chromosomal abnormalities in all of them. Detected anomalies were confirmed on delivery. **Conclusion:** In 3D Omniview mode it is possible to analyse the morphology of fetal face and facial bones. Fetal nose, lips, maxilla and hard palate, and mandible can be visualized in separate planes. Abnormalities of fetal face development and unilateral and bilateral cleft lines can be confirmed in Omniview 3D technique.

OP1-413

IS INDUCTION OF LABOUR AT TERM A SAFE AND EFFECTIVE STRATEGY TO REDUCE THE RISK OF STILLBIRTH IN SOUTH ASIAN ORIGIN MOTHERS?

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Problem statement: There is an increasing awareness that ethnicity plays an important role in dictating a woman's risk of stillbirth, independent of socioeconomic-status. South Asian origin mothers (SAOMs) have been identified as a higher risk group for term and late-term stillbirth in an Australian setting. This study suggests a potential approach to mitigate this risk by assessing the safety of a policy of induction of labour (IOL) as routine care for all undelivered SAOMs at 40 weeks gestation. **Methods:** Retrospective cohort study of 1,017 SAOMs with singleton pregnancies who delivered by normal vaginal delivery, instrumental delivery or emergency caesarean section at a tertiary maternity hospital in Sydney, Australia between 2016 to 2018. SAOMs who delivered in 2018 were offered IOL at 40 weeks gestation (IOLT-group) as routine (n=394) and were compared to SAOMs who received routine care (RC-group) prior to implementation of the policy (2016-2017, n=623). Main outcome measures were stillbirth, gestational age, mode of birth, 1 and 5 minute apgar scores, and special care nursery admission. **Results:** Of the 1,017 births, there were 2 stillbirths (0.3%) in the RC-group compared to 0 in the IOLT-group ($p = 0.53$). The IOLT-group had significantly more IOLs with vaginal prostaglandin (39.8% vs. 23.9%, $p = 0.001$). The IOLT-group delivered at earlier gestational ages than the RC-group with more full-term (39+0-40+6 weeks) births (66.5% vs. 53.6%, RR 1.24, 95% CI = 1.12-1.37, $p = 0.001$) and less late-term (41+0 to 41+6 weeks) births (0.3% vs. 12.0%, RR 0.021, 95% CI = 0.003-0.15, $p = 0.001$). The only neonatal or maternal outcomes which differed between the two groups was a higher 1 minute Apgar score in the IOLT-group (8.6 vs. 8.4, $p = 0.004$). **Conclusion:** IOL at term is a safe strategy with similar modes of delivery and fewer late term deliveries. Although there were insufficient numbers to significantly assess the effects on the stillbirth rate, there were no stillbirths in the intervention group and two stillbirths in the routine care group. *Nil disclosures of interest*

OP1-414

RISK FACTORS ANALYSIS AND DIFFERENT OUTCOMES IN PERIPARTUM CARDIOMYOPATHY (PPCM) PATIENTS WITH AND WITHOUT HYPERTENSIVE DISORDERS IN HASAN SADIKIN GENERAL HOSPITAL, BANDUNG, WEST JAVA, INDONESIA

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Problem statement: Peripartum cardiomyopathy (PPCM) is a severe form of idiopathic cardiomyopathy, affecting previously healthy young women during late pregnancy or postpartum. The actual incidence of PPCM is highly reported across a variety of countries. The nonspecific symptoms and late diagnosis of PPCM might lead to its complications, which are similar to the complications of heart failure. West Java is the most populated province in Indonesia with high rates of pregnancy. Hasan Sadikin Hospital as the main referral hospital in West Java, this study is to analyze the obstetric outcome of PPCM with and without hypertensive disorders and factors associated with its prognosis. **Methods:** This study is a cross-sectional study with a retrospective quantitative approach to understood characteristics and delivery outcome of PPCM patients. Data were taken from PPCM registry in Cardiology Department, Hasan Sadikin Hospital. Subjects of this study are pregnant women around 22 - 40 weeks of pregnancy diagnosed with PPCM between 2014 and 2019. Patients had to fulfill diagnosis criteria of PPCM, had already undergone echocardiography done by Cardiology Department and treated by pregnancy termination either abdominally or vaginally. **Results:** A total of 103 patients were identified as having PPCM. Most cases were associated with comorbidities of 68 women diagnosed with preeclampsia. Weight, high BMI, hypertension in a previous pregnancy was associated with a significant increased risk of PPCM (p<0.05). Most PPCM with preeclampsia were diagnosed in the last month of pregnancy or the first month postpartum (n=46, 67.6%), most likely present with severe cardiac dysfunction (NYHA class IV, reduced ejection fraction, moderate to severe diastolic dysfunction) and develop pulmonary edema. **Conclusion:** This retrospective review of 103 women demonstrates a different profile of PPCM patients with and without hypertensive disorders. PPCM with preeclampsia was associated with higher weight and BMI. History of hypertension in a previous pregnancy was the most influential risk factor for PPCM. This study may increase awareness of the treatment required for patients with hypertension in pregnancy, and also supports the pathogenesis of hypertension in pregnancy associated with PPCM. With appropriate coordinated efforts to undergo multicentre collaborations are needed for the management of PPCM.

Severity, Complication, Mode of Delivery, Medication dan Echocardiography Results of the Subjects

Variable	Pre-eclampsia		
	Yes n=58	No n=35	
Severity and Complication			
NYHA Class			
II	9 (8.7)	5 (14.3)	
III	18 (17.5)	7 (20.0)	
IV	76 (73.8)	23 (65.7)	
Pulmonary Edema	55 (53.4)	20 (57.1)	
Mode of Delivery			
Primary SC	50 (48.5)	10 (28.6)	
Vaginal	52 (50.5)	24 (68.6)	
Abortion	1 (1.0)	1 (2.9)	
Onset of Disease			
Peripartum	56 (54.4)	10 (28.6)	
<1 month postpartum	7 (6.8)	2 (5.7)	
1 month postpartum	24 (23.3)	13 (37.1)	
2-3 month postpartum	11 (10.7)	7 (20.0)	
4-6 month postpartum	3 (2.9)	1 (2.9)	
>6 month postpartum	2 (1.9)	2 (5.7)	
Fetal Outcome			
Dead	7 (6.8)	2 (5.7)	
Alive	96 (93.2)	33 (94.3)	
Medication			
Beta-Blockers	92 (89.3)	31 (88.6)	
Alpha-Blockers	5 (4.9)	1 (2.9)	
CCB	2 (1.9)	0 (0.0)	
ACEI	91 (88.3)	27 (77.1)	
ARBs	12 (11.7)	8 (22.9)	
Oral Diuretics	99 (96.1)	35 (100.0)	
Aldosterone Antagonists	17 (16.5)	8 (22.9)	
Bromocriptine	23 (22.3)	6 (17.1)	
Digoxin	6 (5.8)	4 (11.4)	
Anti-Coagulant	6 (5.8)	1 (2.9)	
Echocardiography			
E/A, mean ± SD	1.77 ± 0.81	1.72 ± 0.78	1.86 ± 0.88
Diastolic dysfunction			
I	18 (17.5)	7 (20.0)	
II	53 (51.5)	14 (40.0)	
III	32 (31.0)	14 (40.0)	
EF2 (%), mean ± SD	33 ± 6	33 ± 6	32 ± 7
EF Results			
Severe	35 (34.0)	15 (42.9)	
Moderate	53 (51.5)	16 (45.7)	
Mild	15 (14.5)	4 (11.4)	

Note: SD: standard deviation

OP1-415

CAUSE AND CONSEQUENCE OF FEVER IN PREGNANT WOMEN: A RETROSPECTIVE STUDY IN A GYNECOLOGICAL EMERGENCY DEPARTMENT

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Problem statement: Fever is a very common reason for emergency consultation during pregnancy, and presents significant maternal, obstetrical and fetal issue. The aim of this study was to determine etiology, maternal or fetal complications and antibiotics prescription when a patient consults for fever during pregnancy. **Methods:** This is a retrospective single center study that included all patients who presented fever to the gynecological emergency department from August 2016 to July 2017. Clinical features, laboratory findings, prescription and issue were collected from electronics medical records. **Results:** A total of 100 patients who had fever were included. The etiology was: common viral infections (36%), influenza (21%), unknown (14%), acute pyelonephritis (11%), acute viral gastroenteritis (6%), chorioamnionitis (5%), other (7%). Fever was objectified during consultation on 45 patients (45%). Among these patients, 46.7% were hospitalized with a median of hospitalization stay 3 days (IQR 2,8) and 22,2% developed fetal or maternal complications. Probabilistic antibiotics were delivered for 75.6% patients while only 31.1% had bacterial infections. When etiology was uncertain, among 32 patients who had objectified fever, 59.3% have been treated with antibiotics against listeria. None was listeria, and they were all probably common viral infections. **Conclusions:** This is the first study to estimate prevalence of the main etiologies in cases of fever during pregnancy. We confirm that fever is associated with significant morbidity. We think antibiotics are often overprescribed. More studies are needed to be able to target patients at risk and study new management of fever. The authors declare no conflict of interest.

OP1-501

THE EFFECT OF SIMULATION METHOD ON KNOWLEDGE, CRITICAL THINKING AND CLINICAL DECISION-MAKING LEVEL OF NURSING STUDENTS FOR THE MANAGEMENT OF PREGNANCY WITH PREECLAMPSIA

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Problem statement: Preeclampsia is one of the three leading causes of maternal and fetal morbidity and mortality worldwide. A great majority of this rates may be prevented with proper management of preeclampsia. Since nurses have a vital role in the management of preeclampsia, it is important to develop their competency for dealing with this complication. Simulation is an innovative education technique, which allows to develop for skills before proceeding to the clinic. There is currently no evidence to determine the effects for management of preeclampsia using high fidelity simulation (HFS) in nursing students. **Methods:** A randomized controlled intervention research in the mixed method was conducted to determine the effects of scenario-based HFS on knowledge, critical thinking and clinical decision making for the management of preeclampsia of nursing students and to evaluate students' opinions. The sample of the research consisted of 107 students (n_{intervention}=53, n_{control}=54) enrolled Obstetrics and Gynecology Nursing course in the State University during the fall semester of 2017-2018 academic years. All students have participated in "Training on Management of Preeclampsia" and after the training, the intervention group were applied scenario-based HFS method, while in the control group no simulation method was applied. The collection of data employed Demographic Form, Knowledge Evaluation Form, The California Critical Thinking Disposition Inventory, Clinical Decision Making in Nursing Scale, Simulation Design Scale and Focus Group Interview Form. Data collection forms were applied

before the training, after of the HFS applications and after one month of the HFS application to the students. **Results:** In the study, it was determined that simulation method for the management of preeclampsia were increased students' total point average of level of knowledge (p0.001), retention of knowledge (p0.001), critical thinking disposition (p0.05) and clinical decision making (p0.05). In the focus group interviews five themes were identified including the development of learning, the transfer of theoretical knowledge to clinical practice, gaining decision-making skill and self-confidence, preparation for professional role and recommendations. **Conclusion:** As a result of the research, it is suggested that to use the scenario-based HFS in training on management of preeclampsia and integrated into the undergraduate nursing education curriculum.

OP1-502

MEDICAL OR SURGICAL METHOD IN TREATMENT OF SYMPTOMATIC UTERINE MYOMA

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Problem statement: uterine leiomyomata is a common and benign connective tissue tumor. The prevalence is 30% of all women. leiomyomas is the most important reason of abnormal uterine bleeding that is still a common indication for myomectomy or hysterectomy in the world. The aim of this study is Comparison of two groups of drugs in treatment of symptomatic uterine myoma and the need to use surgical procedure. **Method:** this is a comparative clinical trial on 48 women with symptomatic uterine leiomyomata accompany vaginal bleeding referred to Dr.rasekh clinic, Iran. Diagnosis was performed based on clinical symptoms, pelvic examination and ultrasonography. patients randomly divided in two groups : 24 patients in control group treated with Dydrogesterone and 24 patients in case group gonadotropin- releasing hormone agonist(Triptorelin acetate) for 6 months. Data collection was performed via questionnaires and statistical analysis by SPSS 21. **Result:** There is no significant difference between mean size of the myoma before intervention in case and control groups. Mean myoma size is not significant difference in Dydrogesterone usage (control group) before and at the end of six months intervention. But the mean of myoma size is significant difference in Triptorelin acetate usage (case group) before the intervention 56.45 ± 5.84 and after intervention 50.06 ± 5.30 ($p \text{ value} \leq 0.05$) that represents a significant reduction of myoma size. Clinical bleeding symptoms improved in both groups which indicate response to treatment.

Conclusion: Due to the complications of surgical procedures and the results of this research shows that there is a significant decrease in myoma size and response to treatment in Triptorelin acetate usage. Therefore, surgical procedure is not necessary. Medical therapy is recommended as the first choice of myoma treatment. **key words:** leiomyomas, Triptorelin acetate, Dydrogesterone, surgery

OP1-503

LASER THERAPY OF CONDYLOMATA ACUMINATA

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Problem statement: The purpose of this lecture is to report about efficacy and safety of the use of ablative ErYAG laser for removal of external genital warts (EGW), also called condylomata acuminata (CA). **Methods:** This is a retrospective cohort study performed at Juna Clinic in Ljubljana, Slovenia. All patients older than 18 years that were clinically diagnosed with EGW and were treated with ablative Er:YAG laser between January 2012 and December 2017 were included in the study. Patients received between one and five treatments depending

on the lesion extension. The interval between the treatments was two weeks and the lesion clearance was assessed at every visit. Topical anesthesia (EMLA) was applied to reduce the treatment discomfort. Follow-ups were performed at every visit and at 6 and 12 months. **Results:** A total of 140 female patients (mean age 40 ± 13 years, range: 19–80) with EGW were found eligible to be included in this study. EGW have been present from 1 to 7 months, with a mean presence of 2.1 ± 2.0 months. The majority of the warts were on the labia majora some also on the mons pubis. The size of the lesions was 2–8 mm. 64% of the patients received only one and 21% two treatments. 81% of the patients showed complete clearance without recurrence. Among these, 90 patients were treated once, 17 twice, 23 of them 3–5 times. These 23 patients received multiple treatments due to extensive wart area, which could not be cleared with a single treatment. There were no adverse effects reported. **Conclusions:** Er:YAG laser removal of EGW is simple, quick and safe procedure, particularly suitable for large volume EGW or those that are located in anatomical sites difficult to access for other techniques. Recurrence rate in our study was 19%, a percentage comparable or even lower than observed with other treatment options.

OP1-504

THE MANAGEMENT OF GYNECOLOGICAL HEMORRHAGES - HYPOGASTRIC ARTERY LIGATION TECHNIQUE

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The historical background of ligation of the internal iliac artery for the control of haemorrhage is not clear. [1] Howard Kelly first pioneered ligation of the internal iliac (hypogastric) artery in the treatment of intraoperative bleeding from cervical cancer prior to this technique being applicable to postpartum haemorrhage.[2] Later were designed and studied other types of vascular ligatures, used in obstetrical and gynecological hemorrhages, some of having as a departure *Ligature of the Internal Iliac Artery*, as well as the procedure *Thoma Ionescu Triple Ligation* (hypogastric artery, ovarian, uterosacral), in the early twentieth century, as a palliative treatment of massive cervical bleeding in cervical cancer, stage III, resumed then by the *Tsirulnikov* (1979) for the control of severe postpartum hemorrhage.[8]

OP1-505

FERTILITY AND CONCEPTION IN A PATIENT WITH VIRILIZING ADRENOCORTICAL CARCINOMA: A CASE REPORT

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Problem: Adrenocortical carcinoma is a rare virilizing tumor with an estimated incidence of 0.5–0.2 new cases per million annually. Its clinical evolution may include an initial phase of defeminization, followed by masculinization, resulting from increased androgen levels. **Method:** A case of a virilizing adrenocortical carcinoma is reported in a 33-year-old nulligravid presenting with secondary amenorrhea for 9 months, along with 16-year history of infertility and manifestations of hirsutism and virilization. Dehydroepiandrosterone Sulfate (DHEA-S) and total testosterone were elevated and imaging revealed an adrenal androgen-secreting neoplasm. Laparoscopic adrenalectomy, right was done. **Result:** Postoperatively, there was resolution of hirsutism and virilizing features, menstrual cycles recurred, with decline of serum androgen levels to normal limits. The patient subsequently conceived and delivered to a live term cephalic baby boy via low transverse cesarean section for cephalopelvic disproportion. No fetomaternal complications were noted. **Conclusion:** Prognosis is excellent with surgical resection. However, its aggressive behavior and high recurrence rate warrants the need for adjuvant therapy and questions the feasibility of future pregnancy.



OP1-506

MYOMATOUS ERYTHROCYTOSIS SYNDROME: A CASE SERIES

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Problem/Objective: To report three cases of myomatous erythrocytosis syndrome. **Methods: Design** - Case series. **Setting:** Tertiary training hospital. **Patients:** Here, we present three cases of large leiomyomas with an incidental finding of isolated erythrocytosis on preoperative workup. **Interventions:** Two patients underwent total abdominal hysterectomy while one patient underwent a myomectomy. **Main Outcome Measures:** Histologic diagnosis and resolution of erythrocytosis. **Results:** Histologic examination confirmed the diagnosis of leiomyoma while serial complete blood count monitoring showed normalization of postoperative hemoglobin levels. Together with the finding of isolated erythrocytosis, the cases fulfilled the criteria of myomatous erythrocytosis syndrome. **Conclusion:** All three criteria were observed in the three cases described. To date, less than 40 cases have been reported worldwide. These are the first reported cases of myomatous erythrocytosis syndrome in the Philippines.

OP1-507

LAPAROSCOPIC CORNUAL EXCISION (WEDGE RESECTION) OR LAPAROSCOPIC CORNUOSTOMY AND REMOVAL OF ECTOPIC PREGNANCY TO PRESERVE UTERUS FOR FUTURE PREGNANCIES? THAT IS THE QUESTION

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Laparoscopy surgery is currently the preferred treatment for ectopic pregnancy. Interstitial tubal pregnancy is rare and dangerous form of ectopic pregnancy which is usually treated by cornual resection or hysterectomy. In 1995 the author developed a new laparoscopic approach for the treatment of interstitial ectopic pregnancy to preserve uterus in a young patient who desired to have more children in future. By performing cornuostomy, removing the product of conception and applying endoloops the bleeding was controlled quickly without suturing. Since then and after publication of this approach the colleagues call it 3 S procedure (Simple, Safe, and Swift). The pros and cons of different approaches of minimally invasive surgeries to preserve uterus will be discussed as well as controversies

OP1-508

PRACAU PROTOCOL: NEW PROTOCOL FOR CHRONIC PELVIC PAIN SYNDROME

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Introduction: The prevalence of pelvic floor pain syndrome in women is about 4%. The use of a powerful tool like advanced three-dimensional ultrasound in the assessment, study, treatment and monitoring of painful pelvic pathology starts getting encouraging results. Knowing the behavior of the injured area in real time without surgery and without radiation exposure is very remarkable. **Objective:** To discuss the case of a 28 year old woman with intractable pudendal neuralgia. **Description:** 28 year old patient attends consultation related to untreatable diagnosed pelvic floor pain syndrome for 5 years. Poor response to specialized medical treatment, no pain relief with physiotherapy and rehabilitation. Go with intense pain in the right vulvo-vaginal area of 12 weeks duration and pain during sexual intercourse (dyspareunia). Evaluated by our interdisciplinary team approach and decided to make pudendal release by three-dimensional ultrasound vulvo-vaginal area. The new PRACAU Protocol (Pudendal Relief Alcock Canal Advanced Ultrasound) of our authorship was applied. It consists of a hydrodissection release using platelet-rich plasma (PRP) 10 ml and local anesthetic (levobupivacaine 0.125%). This treatment method is

applied around the nerve to provide symptoms relief. **Discussion:** Consultations review showed an improvement of symptoms and signs immediately, comparative assessment score showed a positive development objective measure and valued through the strain rate. The interdisciplinary evaluation and use of advanced ultrasonic image techniques provide security and guarantees for our patients.

OP1-509

SERUM PROPROTEIN CONVERTASE SUBTILININ-KEXIN TYPE 9 (PCSK-9) LEVELS IN PATIENTS WITH NORMAL AND OVERWEIGHT / OBESIS POLYCYSTIC OVER SYNDROME

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Objective: The aim of this study is to compare serum Proprotein Convertase Subtilisin-Kexin Tip 9 (PCSK9) levels between the polycystic ovary syndrome (PCOS) patients with normal weight and overweight/obese, also to investigate relationship between the PCSK9 levels, Framingham cardiovascular risk score and metabolic parameters. **Material and methods:** Between April 2017 and October 2017, 80 patients with PCOS between the ages 16-36 years who were admitted to the Reproductive Endocrinology Unit of Zekai Tahir Burak Education and Research Hospital were included in the study. Of a total of 80 participants, 40 patients with BMI 25 kg/m² were normal weight group and 40 patients with BMI ≥ 25 kg/m² were overweight/obese group. PCOS was defined in according to Rotterdam criteria. Anthropometric features of all cases were recorded. On days 2 and 3 of the menstruation, after the 12 hours hunger; fasting insulin, blood glucose levels, 75 gr oral glucose tolerance test (OGTT) and lipid parameters were measured. HOMA-IR was calculated. Serum PCSK9 level was measured by ELISA technique. Patients who are older than 30 years the 10 years Framingham cardiovascular risk score and for all patients 30 years Framingham cardiovascular risk score was calculated. **Results:** Serum PCSK9 levels were significantly higher in PCOS patients whose BMI was 25 kg/m² ≥ (27,57 ng/ml) compare to BMI 25 kg/m² group (9,45 ng/ml) (p=0,009). There is no relationship between PCSK9 levels and 10 years Framingham score, fasting insulin, HOMA-IR, VLDL-K, HDL-K, triglyceride and total testosterone levels. There is positive correlation between PCSK9 and LDL-K, total cholesterol, 30 years Framingham risk score and anti-müllerian hormone (AMH). On the other hand, there is negative correlation between PCSK9 and fasting glucose and 75 gr OGTT. **Conclusion:** With this prospective study according to correlation between serum PCSK9 levels and 30 years Framingham risk score, LDL and total cholesterol, PCSK9 can be used for cardiovascular risk marker in PCOS patients. According to the serum PCSK9 level detected in the reproductive periods of PCOS patients PCSK9 antibodies can be used for the treatment of metabolic and reproductive diseases in PCOS.

OP1-510

LASER TREATMENT FOR GENITOURINARY SYNDROME OF MENOPAUSE. IS THERE ANY EVIDENCE?Ivan Fistic¹, Nikola Fistic²¹Ob/Gyn, Institute for Women's Health, Zagreb, Croatia²Ob/Gyn, University Hospital Merkur, Zagreb, Zagreb, Croatia

Noninvasive treatment is recommended as first line for urinary incontinence (UI) in women. However, surgical procedures are more likely to be implemented to cure UI but are associated with more adverse events. Less invasive operative mesh techniques are relatively effective, but not immune to complications such as bleeding, bladder perforation, urethral injury, infection, and the retention requiring mesh resection. In patients for whom the risks of anesthesia and surgery are too high, a minimally invasive approach is recommended and further research is needed in terms of more compliant, less invasive and low-cost methods for the treatment of stress UI and pelvic floor dysfunction. Contemporary scientific and technological breakthroughs have led to better clinical outcomes with minimally invasive procedures with shorter recovery times and lower implicated



costs. In this sense, recent evidence supports laser treatment as an effective and compliant intervention for stress UI. Although laser is an attractive novel, non-hormonal new technology for the treatment of the GSM, additional studies are needed to explore the long-term safety and efficacy of various laser therapies for genitourinary symptoms. PubMed database up to July 2018 derive only one patient-blinded randomized controlled laser sham trial for stress urinary incontinence using Er:YAG laser. Most of published evidence relies on short term follow-up (1-6 months). Three studies extended for 12-24 months (Er:YAG) and one to 36 months (CO₂). Also, future studies need to be designed taking mentioned considerations into account, including the histological assessment performed immediately after treatment that will help compare morphology at baseline with changes in the vaginal architecture following laser procedure. Next studies should focus on the individual patient level in order to predict personal risk or benefit based on the decision of undergoing a given proposed procedure. Simultaneously, predictive systems may impact public health policies in terms of prevention. In spite of promising initial results, there is still need for long term consistent evidence analyzing laser efficacy and safety in the treatment of female UI.

OP1-511

NON-ABLATIVE LASER TREATMENT OF LICHEN SCLEROSUS ET ATROPHICUS – COMPARISON WITH TOPICAL CORTICOSTEROID THERAPY

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Problem statement: The purpose of this lecture is to report about randomized controlled trial in which new laser treatment was compared with corticosteroid therapy for lichen sclerosis (LS). **Methods:** 40 female patients with vulvar LS were randomized 1:1 into study (laser) group and control (topical corticosteroids) group. The laser group received three Nd:YAG laser treatments. Blinded evaluators evaluated biopsies and graded improvement on clinical photographs at baseline and 3 months. Patients graded the intensity of symptoms on 0-10 VAS scale at baseline and 1, 3 and 6 months follow-up. Patients also rated the tolerability of laser treatments and side effects were monitored. **Results:** All 20 patients from laser and 19 patients from control group completed the treatments and were followed up for 1, 3 and 6 months (laser group) and for 1 and 3 months (control). Laser treatment discomfort was on average 1.5/10 VAS. At 1 and 3 month follow up, patients in the laser group had significantly better improvement of LS symptoms (burning, itching, pain, and dyspareunia), better patient satisfaction and better reduction of sclerosis than patients in the topical corticosteroid group. At 6 months follow up the improvement of symptoms in the laser group was still significant. The correct order of photographs (before/after treatment) was assigned significantly more often in the laser-treated patients compared to control group. The adverse effects were all mild and transient **Conclusions:** Laser therapy for LS demonstrated minimal patient discomfort during the treatment, with no adverse effects, and better efficacy than the control group with significant improvement lasting up to 6 months. It is a promising option for patients not responding to topical corticosteroid therapy or patients wishing to reduce long-term corticosteroid maintenance use.

OP2-601

LABOR INDUCTION IN PATIENTS WITH A SINGLE PRIOR CAESAREAN SECTION

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Problem statement: Risks of Labor induction in patients with a single prior caesarean section are uterine rupture and fail of vaginal delivery. The aims of our study were to determine the vaginal delivery rate in patients with a single prior caesarean section who underwent labor induction in Rennes university Hospital between 2016 and 2018. **Methods:** It was a

monocentric, retrospective study. All the patients with a single prior caesarean section who had labor induction between January 2016 et décembre 2018 were included in the study. We assessed fetal morbidity (pH7, Lactate 12, Apgar score after 10 minutes 5 or néonatale réanimation admission) and maternal morbidity (uterine rupture, post partum hemorrhage (PPH), third degree or more perineal trauma). **Results:** A total of 125 patients with a single prior caesarean section underwent labor induction. Vaginal delivery rate was 91.2%. 87 patients (69.6%) had BISHOP score 6, vaginal delivery rate was 88.5%. 47 patients (37.6%) had a prior vaginal delivery, before or after the single prior caesarean. Among them, vaginal delivery rate was 95.7%. There was four major neonatal complication (pH7) and seven major maternal complications (4 PPH1L and 3 third degree perineal trauma). There was no uterine rupture. **Conclusion:** The vaginal delivery rate was 91.2% during labor induction in patients with a single prior caesarean section in our study. Foetal and maternal morbidity rate was low. It is therefore reasonable to propose labor induction, when needed, to patients with a single prior caesarean section.

OP2-602

WHICH FACTORS MAY INFLUENCE WOMEN'S SATISFACTION AND PREFERENCES IN FUTURE MODE OF DELIVERY?

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Problem statement: Childbirth may have immediate and long-term positive or negative effects on women's life. It can affect motherhood, health outcomes and future reproduction plans and deliveries. The aim of this study was to evaluate postpartum satisfaction and preferences on future delivery after a vaginal delivery (VD). **Methods:** Sub-analysis from an observational prospective study (MOODS: Maternal-neonatal Outcomes in Operative Vaginal Delivery Study) enrolled at Braga's Hospital (tertiary center) from February to August 2018 (included singleton term pregnancies with operative vaginal deliveries and a random spontaneous vaginal delivery (SVD) sample in a 2:1 ratio). Demographics, obstetric, childbirth and puerperium history were analyzed. Women were asked about level of satisfaction and preference toward VD versus cesarean in 3 moments after childbirth: 24-hours, 3 and 12-months. **Results:** 272 women were recruited: 224(82%), 147(54%), and 104(38%) answered after 24 hours, 3-months and 12-months, respectively. Concerning childbearing experience, 200(89%) were very satisfied/satisfied after 24 hours, 121(79%) after 3 months and 79(76%) after 12 months. There were no differences between groups concerning age, marital or working status as well as obstetric history, with the exception of SVD and less postpartum pain being determinant factors for satisfaction in all survey timings (p<0.05). Multiparity (p=0.04) and previous VD (p=0.04) contributed to higher 24-hour satisfaction levels; absence or first grade laceration (p=0.02) and less puerperal complications (p=0.01) contributed to 3-months satisfaction levels; and less duration of second stage of labor to both (p<0.04), but none of them were present with statistical significance after 12 months. Regarding future delivery preferences, 182(81%) at 24-hours, 122(83%) after 3-months and 87(84%) after 12-months would choose VD. Younger women were associated with a VD preference across the 3 surveys (p<0.05) as well as less postpartum pain (p<0.05). At 24-hours after childbirth, less duration of second stage of labor (p=0.02), SVD (p=0.02) and absence or first grade laceration (p=0.04) were associated with a future vaginal delivery desire. **Conclusion:** Less postpartum pain was significantly associated with postpartum satisfaction and VD preference from 24-hours till 12 months after birth. SVD was associated with higher satisfaction, as younger age was associated with desire of future VD. All other variables were not consistently associated with these outcomes over time.



OP2-603

THE EFFECT OF CERVICAL CERCLAGE ON PREGNANCY OUTCOME IN WOMEN FOLLOWING ELECTROSURGICAL CONIZATIONJihyun Park¹, Jeong Ha Wie²¹Department of Obstetrics and Gynecology, Seoul St. Mary's Hospital, College of Medicine, the Catholic University of Korea, Seoul, South Korea²Department of Obstetrics and Gynecology, Eunpyeong St. Mary's Hospital, College of Medicine, the Catholic University of Korea, Seoul, South Korea

Problem statement: To determine the effect of cervical cerclage on perinatal outcomes in patients following electrosurgical conization. **Methods:** This study was a retrospective cohort study. We analyzed the outcomes of 48 singleton pregnancies after electrosurgical conization of the cervix. The patients were divided into two groups according to early midtrimester cervical length and history of preterm birth. Pregnancy outcomes including rate of preterm birth were compared based on maternal risk for preterm birth. **Results:** During the study period there were 48 deliveries of patients following a cervical conization. Cervical cerclage was placed in 20 deliveries and the rest ($n=28$) served as the expectant group. The preterm delivery rate also was not significantly different between the expectant (10.7%) and cerclage group (30.3%) ($p=0.091$). In high risk group, the preterm delivery rate also was not significantly different between the expectant (0%) and cerclage group (38.5%) ($p=0.044$). **Conclusion:** The cervical cerclage did not prevent preterm delivery in women following electrosurgical conization before pregnancy. In high risk women for preterm birth, cerclage may be a risk factor for preterm birth.

OP2-604

EFFECTS ON PREVENTING MOTHER-TO-CHILD TRANSMISSION OF SYPHILIS AND SYPHILIS ASSOCIATED ADVERSE PREGNANT OUTCOMES: A LONGITUDINAL STUDY FROM 2001 TO 2015 IN SHANGHAI, CHINALi Du¹, Liping Zhu¹, Rong Zhang¹, Houqin Xu¹, Mao Hongfang²¹Clinic Management, Shanghai Center for Women and Children's Health, Shanghai, China²Shanghai Jiading District Maternity and Child Health Care Hospital, Shanghai, China

Problem statement: This study aimed to delineate the longitudinal trend of maternal syphilis and burden of associated APOs in Shanghai from 2001 to 2015; and to evaluate the effects of preventing mother-to-child transmission (PMTCT) of syphilis in Shanghai with regard to service coverage and APOs averted. **Methods:** PMTCT program of syphilis has been implemented since 2001. Municipal and national PMTCT surveillance data were used in analysis. By using WHO estimation model, the burden of associated APOs and APOs averted were estimated. The differences in access to antenatal care and PMTCT services between resident and non-resident pregnant women were analyzed. **Results:** The sero-prevalence of maternal syphilis in Shanghai ranged from 0.20% to 0.38% during 2001-2015. The treatment rate varied from 69.8% to 96.8% and remained 83.66% in 2015. Under the PMTCT programs, 2163 APOs had been averted during the 15-year period, including 852(39.4%) early fetal loss/stillbirth, 356(16.4%) neonatal death, 190(8.8%) prematurity or low birth weight, and 765(35.4%) clinical evidence of congenital syphilis. Compared with the residents, the non-resident pregnant women had a higher prevalence of syphilis (1.2‰ vs. 2.5‰) and contributed to 81.7% of the syphilis associated APOs in 2015. **Conclusion:** Screening of maternal syphilis has reached a full coverage both in residents and non-residents. Large numbers of APOs has been averted attributing to the PMTCT programs. More attentions should be paid to those vulnerable non-resident pregnant women and tailored interventions including health education, PMTCT promotion and point of care should be given to maximize the effects of PMTCT effects in Shanghai.

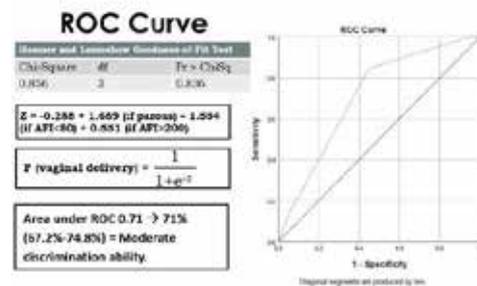
OP2-605

PREDICTIVE FACTORS FOR SUCCESSFUL VAGINAL DELIVERY AFTER A TRIAL OF EXTERNAL CEPHALIC VERSION

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Problem statement: Women after a successful external cephalic version (ECV) have a higher risk to deliver by a cesarean section (CS) compared with women who have a spontaneous vertex presentation. Our aim was to investigate what factors predict a vaginal delivery of a vertex presenting fetus after a trial of ECV. **Materials and methods:** A retrospective cohort study of all women who underwent ECV and delivery in our center between 11/2011-12/2018. Women with known uterine or fetal malformations and women who delivered breech vaginally were excluded. Women who delivered vaginally were compared to women who delivered by a CS. Logistic regression was used for the multivariate analysis of the variables that were significantly associated with the type of delivery. Adverse neonatal and maternal outcomes were also assessed. **Results:** Nine hundred forty six women underwent both ECV and delivery in our center, 717 had a successful ECV (75.8%) and 663 (70.1%) delivered vaginally. Women who delivered vaginally were older, with higher parity, higher likelihood to have an unstable lie, transverse lie, and amniotic fluid index (AFI) 200 mm, lower likelihood to have AFI 80 mm, and higher estimated fetal weight in ultrasound. After adjustment in the multivariate analysis, parous women versus nulliparous women had aOR of 5.42 (95% CI [3.90-7.52] P<0.001), women with AFI 80 mm compared to 80AFI200 had aOR of 0.21 (95% CI [0.12-0.37] P<0.001), and women with AFI 200 mm compared to 80AFI200 had aOR of 1.74 (95% CI [1.03-2.92] P=0.037) to achieve vaginal delivery. Among women with successful ECV, induction of labor was not associated with higher likelihood to deliver vaginally regardless for the indication. The groups were not significantly different in week of ECV trial, fetal gender, placental location, and past CS. Adverse neonatal and maternal outcomes were scarce and were not a direct result of ECV. **Conclusion:** Being parous and having AFI 200 mm are independent predictive factors for achieving vaginal delivery. As complications are scarce and success rates are high we advise all women without contraindication for a vaginal delivery to undergo a trial of ECV.



OP2-606

PREVIOUS HISTORY OF GESTATIONAL ALLOIMUNE LIVER DISEASE: HOW TO PREVENT

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Introduction: Gestational alloimmune liver disease (GALD) is a rare disease, which results from transplacental transfer of maternal IgG antibodies directed against a fetal hepatocyte antigen. Fetal liver injury causes disturbed fetal iron homeostasis, resulting in fetal iron overload. The risk of recurrence is very high (90%) and the antenatal diagnosis is not possible. Maternal treatment with intravenous immunoglobulin

(IVIG) prevents the recurrence of GALD in subsequent pregnancies. **Case report:** 37-year-old Caucasian woman, healthy, gravida 5 para 1, with previous history of pregnancy termination at 23 weeks due to fetal hydrops and early fetal growth restriction. Autopsy diagnosis revealed GALD. The index pregnancy was monitored at Fetal Medicine Unit of Hospital de Santa Maria. Maternal IVIG infusion (Privigen®) 60mg was administered at 14, 16 and 18 weeks and then given weekly until 36 weeks of pregnancy. There was no complication during the treatment which was done at inpatient-care and divided in 2 doses of 30mg/day in consecutive days. The anomaly ultrasound at 18 and 22 weeks were normal. At 25 weeks, the magnetic resonance imaging showed normal fetal liver and no signal of iron overload. Serial fetal growth assessment was performed showing appropriate fetal growth and normal biophysical profile and fetal doppler. At 37 weeks of gestation, an elective cesarean was performed and borned a male neonate weighing 3240g with Apgar scores of 5 and 9 at 1st and 5th minutes, respectively. Umbilical cord pH and lactate was normal. The neonate was admitted to NICU due to early respiratory distress syndrome and was discharged at the 8th day of life. Serial blood tests showed normal liver function. At 4 months of age, the abdominal ultrasound did not reveal hepatic lesions. **Conclusion:** GALD is considered a leading cause of neonatal liver failure and is largely preventable with antepartum administration of maternal intravenous immunoglobulin.

OP2-607

ALL OPTIONS BY CHOLECALCIFEROL TREATMENT OF THREATENING MISCARRIAGE

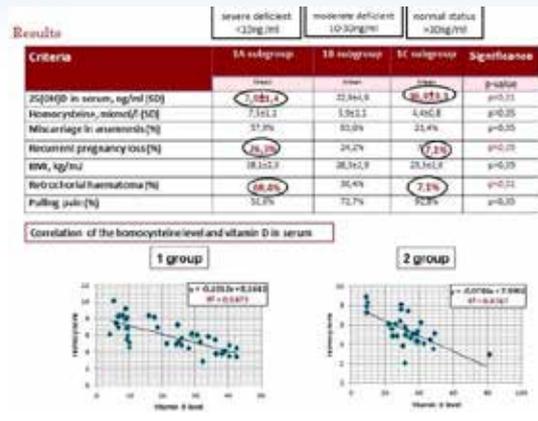
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Problem statement: Approximately 2 billion people are deficient in microelements, according to WHO resolution. Recent works emphasize the importance of non-classical roles of vitamin D in pregnancy, suggest important roles for the VDR(vitamin D-receptor) and VDR signaling pathways in the placenta. Placental trophoblasts express the VDR encoded by the CYP27B1 and CYP24A1 genes, produce and respond to 1,25(OH)2D. This vitamin induces decidualization, limits production of proinflammatory cytokines what can help in normalizing process of implantation in early pregnancy. **Methods:** The study included 120 pregnant women from 6-14 weeks of gestation with supervision them until delivery. The state of vitamin D was based on the concentration of 25(OH)D, determined by enzyme immunoassay in the mother's serum. Serum concentrations of 25(OH)D: severe deficient 10 ng/ml, moderate deficient (10-30ng/ml), and normal status (30ng/ml). **Results.** In 1 trimester of gestation inside of 1 group were the biggest number of women with retrochorial haematoma (68,4%) and the lowest percentage of pulling pain(52,6%) among women with severe deficient of vitamin D and this is was conversely to group with normal state of vitamin D (7,1% and 92,8%). There were high negative correlation in group with threatening miscarriage between the level of vitamin D and homocysteine, the level of vitamin D and BMI. Also there were negative correlation between the level of vitamin D and the size of retrochorial haematoma by ultrasound. In complex therapy, we used cholecalciferol 2000-4000 IU per day depends on baseline level of 25(OH)D in serum and there was a positive dynamics of the increasing the level of 25(OH)D in blood (by an average of 30-40%) after 6 weeks of treatment. **Conclusion:** Correction of vitamin D deficiency in pregnant women with a threatened miscarriage has been shown to be effective in treating and can be a perspective method in complex therapy of pregnancy loss.



OP2-608

ACCURACY OF THE ULTRASOUND FETAL WEIGHT ESTIMATION BEFORE VAGINAL BIRTH AFTER A CAESARIAN (VBAC) ACCORDING TO THE MATERNAL BODY MASS INDEX (BMI)

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Problem statement: The ultrasound fetal weight estimation (UFWE) very often influences the obstetric management, especially after a caesarian section where fetal macrosomia is often used to refute VBAC. But several parameters can influence this estimation among which maternal obesity. The aim of this study is to evaluate the accuracy of UFWE at the entrance to the delivery-room according to the BMI of the patients before VBAC. **Methods:** It is a prospective cohort study in VBAC candidates in labor at Farhat Hached Teaching Hospital Gynecology and Obstetrics Department in Sousse Tunisia from July 2017 to June 2018. We compared the accuracy of the UFWE versus the BW based on the maternal BMI. Our study population of 864 patients was divided into two groups based on BMI; Group 1: BMI Lower than 30 KG/m² (534 patients) and Group 2: BMI Greater than or equal to 30 KG/m² (330 patients)). For each group, the accuracy of the UFWE with respect to BW was calculated and then the precision values of each group were compared to see if the maternal BMI influences the ultrasound performance as well as its negative predictive value. **Results:** The median absolute difference between the UFWE and the BW was 287 [0-1250] grams. The median error percentage was 7% [0 to 38%], which was less than 10% in 72.5% of cases. There was a good correlation between the UFWE and the BW (R = 0.7). This correlation was stronger in less obese women (R = 0.76 versus R = 0.68, p = 0.03). A BMI≥30kg / m² significantly altered the performance of the ultrasound fetal weight estimation with an error percentage of 8.9% versus 7.4% in the BMI group. **Conclusion:** The UFWE in the delivery-room of remains limited with a margin of error greater than 10% in one-third of cases in the case of maternal obesity in patients candidate for VBAC.

OP2-609

PREDICTORS OF GESTATIONAL DIABETES RISK IN THE FIRST TRIMESTER OF PREGNANCY

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Problem statement: Gestational diabetes mellitus (GDM) remains a serious medical and social problem of our time, which is far from the final solution. The high incidence of GDM-related obstetric complications and perinatal diseases that determine adverse pregnancy outcomes for the mother and newborn are largely associated with late diagnosis. **Materials and methods:** Prospective cohort study was provided in 2018 (January - September). All pregnant women satisfied inclusion criteria. In addition to the standard examination, serum iron and glycated



hemoglobin (HbA1) levels were determined in observed pregnant women. At the end of gestation, the study group included pregnant women with developed GDM (n=32), the control group included 61 women with physiological course of pregnancy and childbirth. Statistical processing of the data array was performed using the Statistics 8.0 software package. The binary logistic regression method was used to build the predictive model. **Results:** It was found that the predictors of the risk of GDM, suitable for its assessment in the first trimester of pregnancy, are the woman's age, body mass index (BMI), levels of glucose, hemoglobin, HbA1 and serum iron. A predictive model was developed: $P = 1/(1 + e^{-z}) * 100\%$, where $z = -54,8 + 0,19 * X1 + 0,89 * X2 + 4,3 * X3 + 5,92 * X4 - 0,2 * X5 - 0,17 * X6$, where P is the probability of developing GDM (%), X1 – age women (years), X2 is the BMI (kg/m²), X3 – the level of glucose in serum (mmol/l), X4 – level of glycated hemoglobin (%), X5 – the content of serum iron in the blood (ng/ml), X6 is the concentration of hemoglobin in blood (g/l). Pregnant women with $R \geq 50\%$ have a risk of developing GDM. **Conclusion:** The probability of verification of GDM in the modern population of healthy residents of Moscow optimal reproductive age is 9%. Risk shape women over 28.5 years who, at the time of registration BMI $\geq 24,4$ kg/m², and the determination in the first trimester HbA1 levels $\geq 4.85\%$, hemoglobin $\leq 109,5$ g/l and serum iron $\leq 10,7$ ng/ml. For the mathematical prediction in the first trimester of pregnancy can be used a mathematical model.

OP2-610

EFFECTS OF PROGESTERONE ON PRETERM PREMATURE RUPTURE OF MEMBRANE TREATMENT MODEL

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Problem statement: PPRM (Preterm Premature Rupture of Membrane) accounts for about 30% of the preterm births, but treatment has not been established. We studied the effects of progesterone in PROM, using the AESC (amniotic epithelial stem cells) and APCT (Amnion Pore Culture Technique) in vitro model. The purpose of this study is to evaluate whether the progesterone has the regeneration effects and the anti-inflammatory response on amniotic epithelial stem cells (AESC) & amniotic tissue- amnion pore culture technique model (APCT model). **Methods:** To study progesterone effects, we use progesterone 300 ng/mL, OHPC (Hydroxyprogesterone Caproate) 400 ng/mL. The expression of progesterone receptor; PR (Progesterone Receptor)-A, -B and PGRMC1 (Progesterone Receptor Membrane Component-1) were analyzed. The change of MMP (Matrix Metalloproteinase)-9 expression was measured by real-time PCR. **Results:** (1) TNF α increase MMP-9 gene expression in hAESCs. (2) OHPC treatment decreases MMP-9 gene expression on TNF α stimulated hAESCs than unstimulated group. (3) P4 and OHPC treatment increase PGRMC1 gene expression in TNF α stimulated hAESCs. (4) There is no difference on MMP-9, PGRMC1 gene expression and PGRMC1 protein expression of regenerative amniotic tissues by APCT model. Progesterone did not proliferate amniotic epithelial cells, but progesterone-treated group decreased MMP-9 mRNA expression in amniotic epithelial cells induced by TNF α . **Conclusion:** Progestins had no regeneration effects on amnion membrane. However, progestin reduces MMP-9 expression and increases PGRMC1 expression in TNF α induced-human amniotic epithelial stem cells (hAESCs). These results suggest that progestin could suppress amnion membrane weakening by reducing MMP-9 and increasing PGRMC1 expression playing a role in mediating the protective effects in hAESCs. Further studies are needed to clarify the mechanism of progesterone's anti-inflammatory response through the progesterone receptor-PGRMC1.

OP2-611

DIAGNOSIS AND MANAGEMENT OF PLACENTA PREVIA AND LOW PLACENTAL IMPLANTATION

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Problem statement: To evaluate the migration of low-placental implantation (LPI) during the third trimester of pregnancy and its effect on delivery and post-partum hemorrhage. **Methods:** Retrospective study at a level 3 maternity center including all cases of placenta previa (PP) and LPI between 1998 and 2014. The distance (d) between cervical internal os (CIO) and placental edge (PE) were measured by vaginal ultrasonography in the third trimester of pregnancy at 32 and 3 weeks after. We analyzed CIO-PE distance, volume of post-partum hemorrhage, delivery decision, and mode of delivery. **Results:** In total, 319 patients presented with PP or LPI. All complete PP (121) and 90.6% (58 of 64) of the placentas less than 1 cm from the CIO did not migrate. Among the 138 placentas with an initial CIO-PE d greater than 1 cm, only 17 (12.3%) did not migrate above 2 cm. The patients for whom the decision to perform a cesarean section (C-section) was retained and realized had a CIO-PE d significantly lower than those who delivered vaginally (p .001). The patients who delivered by C-section had a lower CIO-PE d when an emergency C-section was performed, specifically for hemorrhage (p .001). The mean volume of hemorrhage was significantly higher for patients with a CIO-PE d less than 2 cm. **Conclusion:** Complete PP and the majority of the placentas less than 1 cm from the CIO did not migrate. Above 1 cm, the majority of the placentas migrated three to four weeks later. For the placentas less than 1 cm from the CIO, a significant risk of hemorrhage at delivery was observed. Thus, prophylactic cesarean section is required for CIO-PE distances 1 cm. For distances between 1 and 2 cm, the volume of blood loss tends to be more important than for distances 3 cm without statistical significance. A vaginal delivery could be tried after information of patients. *The authors do not report conflict of interest*

OP2-612

THE EFFECT OF ANESTHESIA MAINTENANCE WITH PROPOFOL AND SEVOFLURANE TO CORTISOL, SFLT-1 AND MDA LEVEL IN SEVERE PREECLAMPTIC PATIENT UNDERWENT SECTIO CESAREA

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Problem statement: Severe preeclampsia is one of the leading causes of maternal and foetal morbidity and mortality, identified by excessive stress response and oxidative stress. Propofol and sevoflurane are general anesthesia agents often used for severe preeclamptic patient underwent sectio cesarea (SC). Propofol capable to suppress stress response and has antioxidant ability so it able to reduce cortisol, sFlt-1 and MDA level in severe preeclamptic patient. The aim of this study was to compare the effect between propofol and sevoflurane maintenance to cortisol, sFlt-1 and MDA level change in severe preeclamptic patient underwent SC. **Methods:** This study is a prospective, experimental, single blind randomized control trial, performed in 60 severe preeclamptic patients underwent pregnancy termination with SC. Subject divided into two groups, propofol group (P) and sevoflurane group (S). Anesthesia induction was done with propofol bolus 2 mg/kgBW. P group was given propofol maintenance 100-200 μ g/kgBW/minutes and S group was given sevoflurane maintenance 1.0-1.5 MAC. Cortisol, sFlt-1 and MDA level from both groups, first at 8-10 minutes after induction (T0), second after placenta delivery (T1) and third at 8-



10 minutes after anesthesia was done (T3), were compared. **Result:** The level of cortisol, sFlt-1 and MDA in severe preeclamptic patient are lower in propofol maintenance than sevoflurane maintenance (p 0.05). **Conclusion:** Propofol maintenance has a greater capability to lower cortisol, sFlt-1 and MDA level in severe preeclamptic patient underwent SC than sevoflurane. **Key words:** preeclampsia, propofol, sevoflurane, cortisol, sFlt-1, MDA

OP2-701

IS LETROZOLE THE ANSWER TO PCOS WOMEN WHO FAIL TO OVULATE WITH CLOMIPHENE CITRATE AND WITH GONADOTROPINS

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Problem statement: To study the response of letrozole in women with PCOS related infertility who did not respond to 150 mg clomiphene citrate and gonadotropins. **Aim and objectives:** A prospective observational study was conducted in our institute on PCOS women not responding to clomiphene and gonadotropins of age group 20-35 years. The study population was given a trial of clomiphene citrate maximum 150 mg (3 cycles). In Clomiphene citrate resistant patients, gonadotropins (3-6 cycles) was given. Further if there was no ovulation, they were stimulated with 7.5 mg letrozole (2.5 mg TDS) and response was recorded as ovulation. **Results:** Of the total 42 women enrolled in the study, 18(42.86%) were clomiphene citrate resistant and 24(57.14%) did not ovulate with both clomiphene and gonadotropins. Some of these women were even given a trial of clomiphene + metformin and ovarian drilling but did not respond. Ovulation with letrozole was seen in 38(90.48%) of the women. However, 4 (9.52%) women did not ovulate with letrozole (7.5 mg) also. But conception with letrozole was seen in only 10 (26.31%) of the women who actually ovulated. **Conclusion:** Letrozole appears to be a suitable option in clomiphene and gonadotropin resistant PCOS women.

OP1-702

THE ROLE OF FSH TO AMH RATIO IN PREDICTING THE NUMBER OF OOCYTE RETRIEVED OR CYCLE CANCELLATION WITH LOW PROGNOSIS PATIENTS UNDERGOING ICSI CYCLE

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Problems: The management of patients with poor ovarian response (POR) to exogenous gonadotropin stimulation is a challenging problem in ART cycles. Serum FSH positively and AMH negatively associated with POR. The aim of this study was to predict the number of oocyte retrieval and cycle cancellation with FSH/AMH ratio in low prognosis patients undergoing IVF-ICSI treatment **Materials and Methods:** This retrospective study concern about fresh IVF-ICSI cycles was conducted in Zekai Tahir Burak Women's Health Research and Education Hospital, between January 2015 and October 2018. All patients were included as 'low prognosis patients' in assisted reproductive technology according to the POSEIDON's stratification. Women between 24 and 44 years were recruited and baseline demographics and fertility characteristics were collected. Basal serum AMH, E2, FSH levels and AFC were determined and FSH/AMH ratio was calculated. Number of retrieved total, MII, fertilised oocytes and embryos together with quality were also recorded. Correlation between FSH/AMH ratio and other parameters were analysed with Spearman rank R test. **Results:** In this study FSH/AMH ratio were strongly correlated with the number of oocytes retrieved (P 0.0001, r = -0.4) and cancelled cycle or absence of oocyte after oocyte pick-up (p 0.002, r = 0.3)

. This ratio performed well in predicting retrieved oocyte lesser than 5 with an AUC of 0.82 (95% confidence interval 0.71–0.92). A cut-off value of 11.36 predicted oocyte pick up less than 5 with a sensitivity of 80% and specificity of 87%. Moreover the optimal FSH/AMH cut-off value was 14.22 to predict cycle cancellation or absence of oocyte following OPU, providing sensitivity, 91%; specificity, 44% (AUC of 0.71; 95% confidence interval, 0.59–0.83). There were no any correlation between FSH/AMH ratio and clinical pregnancy (p 0.5). **Conclusion:** FSH /AMH ratio may be predictive for oocyte retrieval less than 5 and cycle cancellation in certain cut-off values. Assessment of this simple ratio at the beginning of the cycle may help the clinician to notice accurate anticipation of gonadotropine stimulation treatment and correct counselling to the patient about cycle cancellation and expectation of retrieved oocyte.

OP2-703

EVOLUTION OF THE SEXUAL BEHAVIOUR ET DYSFUNCTIONS IN WOMEN IN INFERTILE COUPLES

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Problem statement: Infertility is currently a public health problem that is not life-threatening for the patients but which seriously affects their quality of life. The results of treatment options have steadily improved over the last decade, especially in terms of cumulative pregnancy and live birth rates, But what about the quality of life of patients? The main objective of this study is to evaluate the long-term (10 years) impact of infertility on female sex life. **Methods:** This is a prospective population-based analysis of 100 women from 100 voluntary infertile couples diagnosed and managed at the Reproductive Medicine Unit of the Obstetrics and Gynecology Department of CHU Farhat Hached Sousse. The study spanned a 10-year period from September 2009 to August 2018. The data were collected from 2 individual interviews spaced 10 years apart, during which the patient's sexuality was assessed by the Arabian Sexual Function Index (ArFSFI) Arabic version of the FSFI. The data capture and analysis were performed with the SPSS 20 software. For the statistical study, we compared averages for 2 paired series by the student's t-test after verifying the normality of the distribution of the variables taking the value of 5% as the significance threshold. **Results:** The different scores of the 6 items of the ArFSFI score before treatment for infertility and after 10 years with no results show a non-significant difference in terms of desire disorders, arousal, dyspareunia, and satisfaction. Over time, there is a drop in lubrication and therefore objective excitation and an increase in female orgasm disorders with respectively p =,049 and p= 019. **Conclusion:** The duration of infertility alters female sexuality essentially the objective excitation and the orgasm. **Conflict of interest:** None

OP2-704

A STUDY OF 2,013 DONOR-CONCEIVED PEOPLE

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Problem statement: What are the experiences, desires, and needs of the donor-conceived community? **Methods:** In 2009 and again for three weeks in October of 2018 surveys with quantitative and qualitative questions were collected reporting on the experiences of being a donor-conceived person, including disclosure, terminology, anonymity, missing father/male figure, feelings about being donor-conceived, and curiosity about and contact with previously unknown genetic (donor) relatives. 1268 individuals responded to the survey designed for donor-conceived people raised in non-LGBTQ households (HET) (467 in 2009 and 801 in 2018). 745 individuals responded to the survey designed for donor-conceived people raised in LGBTQ households (LGBT) (287 in 2009 and 458 in 2018). 64% of LGBT and 74% of HET respondents were female. 14 LGBT and 69 HET respondents were conceived using an egg donor and



the balance were conceived with a sperm donor. **Results:** **Disclosure** 69% of LGBT offspring and 32% of HET offspring indicate that they have "always known" about being donor conceived. In the HET families, over 50% of those under 18 have "always known." This number is considerably less for older cohorts. **Terminology** "How do you refer to the donor? LGBT Sperm Donor Offspring: 53% Donor, 30% Sperm Donor, 18% Biological Father, 14% Donor Dad, 8% Father, 2% Genetic Father, 10% Other HET Sperm Donor Offspring: 41% Biological Father, 41% Donor, 39% Sperm Donor, 12% Donor Dad, 7% Father, 6% Genetic Father, 8% Other **Anonymity:** 87% of HET offspring, 69% of LGBT offspring said that their parents used an anonymous donor. "If your donor is anonymous, do you wish that your parent(s) would have used a willing-to-be-known or known donor?" 59% of LGBT offspring and 73% of HET offspring answered "Yes". **Conclusion:** The reproductive medicine industry can better serve the needs of the donor-offspring community by listening to their experiences, desire to know more about their origins, and desire to connect with their close relatives.

OP2-705

CLINICAL AND COMMUNICATION CHALLENGES OF EUROPEAN AND LATIN AMERICAN EMBRYOLOGISTS, NURSES, AND LABORATORY SPECIALISTS INVOLVED IN FERTILITY CARE

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Problem statement: Multiple studies have focused on the challenges of patients undergoing assisted reproductive procedures. However, little is known about difficulties and challenges faced by healthcare providers practicing in fertility care. An international needs-assessment was conducted to identify the key challenges faced by these providers that could be addressed through continuing medical education and professional development activities. **Methods:** An ethics-approved study was conducted with fertility professionals (clinically practicing physicians, laboratory specialists and nurses) from 12 countries (n=535). A mixed-methods approach was used, consisting of semi-structured interviews (n=81) and an online survey (n=454). Presentation will focus on findings from participants in Europe (EU) (n=221; France, Germany, Italy, Spain, UK) and the Americas (AM) (n=137; Brazil, Canada, Mexico). Inclusion criteria for embryologists and nurses included a minimum of clinical time spent practicing in fertility clinics. Laboratory specialists were required to conduct a minimum of two key laboratory tasks. **Results:** Triangulated analysis of qualitative and quantitative data identified challenges in four main areas related to: genetic testing and procedures; controlled ovarian stimulation (COS); luteal phase; and communication with patients. Regarding genetic testing, sub-optimal skills when performing embryo biopsies were identified among laboratory specialists (EU: 38%; AM: 46%) as well as sub-optimal knowledge of cases that would require pre-implantation genetic screening among physicians (EU: 31%; AM: 29%). Patients with estrogen-dependent cancer was identified as the most challenging profile to induce COS by physicians (EU: 46%; AM: 62%). Regarding the luteal phase, sub-optimal knowledge of abnormal microbiome composition was reported by physicians (EU: 40%; AM: 35%) and laboratory specialists (EU: 51%; AM: 46%). Finally, discussing treatment termination with the patient was reported as challenging by physicians (EU: 65%; AM: 60%), and nurses (EU: 62%; AM: 40%). **Conclusions:** Sub-optimal knowledge and skills were identified in four areas of fertility care. The patient communication challenges identified are aligned with

findings from previous qualitative studies. This needs assessment provides improved specificity on the exact knowledge and skill-related challenges that professionals in fertility care experience, which could be addressed through professional development activities. **Disclosure of Interest:** This study was financially supported with education research funds from Ferring Pharmaceutical.

OP2-706

SYNERGISTIC EFFECT OF OBESITY WITH POLYCYSTIC OVARIAN SYNDROME ON ENDOTHELIAL DYSFUNCTION. ROLE OF INSULIN RESISTANCE

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Problem statement: Evidence inform early endothelial damage in women with polycystic ovary syndrome (PCOS) associated with hyperandrogenism but most of these studies do not consider the influence of obesity. This is relevant since obesity produces endothelial damage, likely through the influence of insulin resistance, and also because it is highly frequent in women with PCOS. Asymmetric dimethyl arginine (ADMA) is considered a biomarker of endothelial damage found elevated in clinical scenarios such as hypertension, cardiovascular disease and dyslipidemia whose pathophysiology include endothelial dysfunction. Endothelial damage is also evaluated by measuring the flux-mediated vasodilation with ultrasound. Thus, it seems necessary to disentangle the effect of hyperandrogenism, from that of obesity, on the risk for endothelial damage in women with PCOS. In this study we assessed associations between endothelial damage and PCOS adjusting by the presence of obesity and insulin resistance. **Methods:** A clinical cross-sectional study including women with and without PCOS (Rotterdam), with and without obesity (BMI ≥ 30) was conducted. Insulin sensitivity (hyperinsulinemic-euglycemic clamp), ADMA (Ultra high-performance chromatography), testosterone (MS-liquid chromatography), and flux-mediated vasodilation (FMVD) (ultrasound) were measured. Non-parametric statistics was used for comparisons. **Results:** Participants were stratified into four groups according with the combination of obesity and PCOS (Table 1). ADMA and testosterone were higher, and FMVD and M-value lower, in Obesity+PCOS compared to control (non-Obesity non-PCOS) group (p0.001). Thirty-one percent women presented endothelial damage (FMVD ≤ 10), 21.3% Obesity+PCOS compared with 3.4%, 3.4% and 6.6% Obesity non-PCOS, non-Obesity PCOS and control groups respectively (X^2 , p=0.006). Likewise, 49% presented insulin resistance (M6.5), 31% Obesity+PCOS, compared with 6.6%, 6.6% and 4.5% in the other three groups respectively (X^2 , p0.001). Logistic regression analysis demonstrated that the risk for endothelial damage was higher in women with combined obesity and PCOS as compared to control (OR: 6.5, 95%CI: 1.5, 28), as well as to the other two groups: Obesity non-PCOS (OR: 7.4, 95%CI: 1.2, 45), and non-Obesity PCOS (OR: 10.2, 95%CI: 1.7, 59). **Conclusion:** Our data suggests that PCOS induces endothelial damage independently of obesity. The combined effect of obesity and PCOS on the risk for endothelial damage in synergistic. No conflict of interest. Grant: CONACYT-SALUD-2017-1-290399

OP2-707

RETROPERITONEAL ECTOPIC PREGNANCY: A CASE REPORT FROM HANOI OBSTETRICS AND GYNECOLOGY HOSPITAL

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Introduction: Retroperitoneal ectopic pregnancy (REP) is one of the rarest conditions of ectopic pregnancy. To date, there are merely 30 published cases available in English literature. An exceptional location of gestation with no symptom makes a great challenge for clinicians to diagnose and can become a catastrophe for the patients. **Case:** We report a case of a 34-year-old woman with REP after fresh embryo transfer with a history of two previous salpingectomies via laparoscopy. 25 days after embryos transfer, her beta Human Chorionic Gonadotropin (β hCG) level was 8910 mIU/mL. Transvaginal ultrasound described a suspected heteroechoic mass next to the right ovary. Laparoscopic surgery was used to diagnose but we did not find embryonic location. The next day, an abdominal Magnetic Resonance Imaging (MRI) was performed showing a mass in the retroperitoneal space next to the right iliac artery. This mass was confirmed as a REP and was removed successfully via laparotomy. Histopathology of the removed gestation tissues shown an invasion of trophoblast cells into the lymphatic tissues. **Results:** The patient was discharged on day 4 of post-operation. Her β hCG level became normal 12 days after surgery. **Conclusion:** REP is extremely rare. MRI was a very useful method to find the abnormal implantation. In addition, the appearance of lymphatic tissues in the gestation suggests the mechanism that embryo moved by the lymphatic pathway to implant in retroperitoneal location.

OP2-708

RESULTS OF TRA AFTER METEROPLASTY BY UTERUS IN T SHAPE

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Problem statement: Congenital malformations of the female genital tract consist of a group of miscellaneous deviations from normal anatomy. Some types of congenital malformation are the result of a disturbance in one stage of embryologic development. But others are the result of disturbances in more than one stage of normal formation. Others are similar but acquired in time secondary to other pathologies as Adenomyosis. Different systems have proposed for the classification of female genital tract anomalies American Society of Reproductive Medicine System (AFS) en 1988 is the most reference used in the last two decades. However, this system has limitations in terms of effective categorization of some anomalies. For example, the borders of arcuate and septate uterus are not clear. For that reason, a new clasification system was published by ESRHE an ESGE, for doing a better clasification more useful in clinical practise included T shape. 3D ultrasound has allowed us to obtain a coronal cut that allows easy visualization of the uterine cavity and be able to diagnose or suspect mulerian malformations. we can observer a lot of T shape in uterus of infertile patients over forties and sometime before, in than cases with Implantatio failure or recurrent miscarriage we could do a metroplasty before a new treatment. **Methods:** We have reviewed 36 cases in which we have performed Metropasty by uterus in T after TRA failures or recurrent abortions in IVI Madrid from January 2018 to June 2019 and their results after a new TRA. **Results:** The average age of the patients was 39.8 years. Of the 36 patients 26 of them had done ART and 12 of them had had previous miscarriages. 17 of them made IVF and 19 egg donations. The PR was 61%, with LBrate or 52%, and a MR of 25%, and only one of cases with preterm delivery of 32 weeks. **Conclusion:** In T uterus the metroplasty by histeroscopy could improve reproductive results in patients with previous failure TRA or recurrent miscarriages but are necessaries studies or series with more number of cases.

OP2-709

LEPTIN EXPRESSION ON MIDLUTEAL ENDOMETRIAL TISSUE OF MACACA NEMESTRINA AFTER CONTROLLED OVARIAN HYPERSTIMULATION: GLANDULAR, STROMAL AND LUMINAL ANALYSIS

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Problem statement: The low success rate of IVF is influenced by several factors, including endometrial receptivity. It is known that controlled ovarian hyperstimulation (COH), a step critical for the success of IVF, may decrease endometrial receptivity as it involves administration of gonadotropin and follicle stimulating hormone (FSH). These hormones increase estrogen and progesterone concentration, which alters molecules necessary for endometrial receptivity, including serum leptin. This study aims to find if such leptin alteration also happens in endometrial tissues. **Methods:** This study used paraffin-embedded tissue blocks of a previous study involving uterus of *Macaca nemestrina* (southern pig-tailed macaques). Subjects included in this study are 15 female macaques on reproductive age (8-10 years) with history of producing offspring. These macaques were divided into four groups in accordance to their COH protocols, which include administration of GnRH agonist and recombinant FSH (r-FSH) with dosages of 30 IU, 50 IU, 70 IU (intervention groups) and no r-FSH (control group). These stimulations were given for 14 days during midluteal phase. Endometrial tissues were retrieved on day 20-22 midluteal phase. Tissue staining was conducted using immunohistochemistry. Leptin expression was determined with IHC Profiler and counted semiquantitatively as H-score. **Results:** Differences of leptin expression in endometrial glands between intervention groups is insignificant as determined by one-way ANOVA ($F(3,10) = 0.464, p = 0.714$). Similar results are also displayed in stromal ($F(3,11) = 1.033, p = 0.416$) and luminal parts of the tissues ($F(3,9) = 1.059, p = 0.413$). These insignificant differences may be explained by the indirect correlation between leptin and FSH, as the latter controls leptin expression by regulating the concentration of estrogen and progesterone. Other reason may be the 7-day interlude between COH intervention and tissue retrieval, as r-FSH has a half-life of only 24 hour. A limitation of our study is the low number of subject due to restriction on *Macaca nemestrina* utilization for research in our country. **Conclusion:** Controlled ovarian hyperstimulation does not affect leptin expression in endometrial tissues significantly. Further research opportunity includes studying effects of estrogen and progesterone, as a result of COH, to leptin expression on endometrial tissues.

OP2-710

DO NOT FORGET ECTOPIC PREGNANCY EVEN WITH NEGATIVE PREGNANCY TEST! A DECEPTIVE TIME BOMB

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Introduction: About 1% of ruptured Ectopic Pregnancy (EP) presents with negative urine pregnancy test and few with non-pregnant level of blood β -HCG, 1 case even reported with negative blood β -HCG. **Case summary:** 24-year-old P1 lady presented with 2-days history of inspiratory chest pain, tachycardia of 130ppm. She had 1-day history of RIF pain, rebound tenderness on palpation, elevated WBC and neutrophils, positive D-Dimer and negative urine pregnancy test. CT pulmonary angiogram ruled out PE and CT abdomen and pelvis requested to rule out appendicitis reported solid pelvic mass measuring 10.22X13.5X9.2cm with Ascites. Gynaecologist



advised for tumour markers in view of suspected pelvic malignancy. While waiting for an MRI, US A&P (TAS) was done that concluded "Unable to determine if the mass is separate from the ovary". β -HCG reported as 61 U/L with remaining normal tumour markers. Patient collapsed in ward the following night and her Hb dropped from 93 to 49 g/L and a CT mesenteric angiogram was done to rule out active vessel bleeding! In view of the large volume haemoperitoneum the radiologist reported that the findings be regarded as ruptured ectopic pregnancy until proven otherwise even though β -HCG is only marginally raised. Patient was taken to emergency theatre where a laparotomy revealed 3.5L blood in abdominal cavity with ruptured right tubal EP that was removed by salpingectomy. She was discharged home on Day2 post-op with a Hb of 85 g/L and β -HCG of 28 U/L that was reported as 1 U/L a week later. **Conclusion:** Over reliance on imaging at the expense of clinical judgment is an increasing issue in 21st century medicine that needs to be addressed. Ruptured EP is one of the commonest acute abdomen conditions for females of reproductive age. Negative urine test does not exclude pregnancy and slightly raised β -HCG can be a common finding in ruptured EP.

OP2-711

RELATIONSHIP BETWEEN PROLACTIN AND DOPAMINE RECEPTOR EXPRESSION AND PROGRESSION OF GENITAL ENDOMETRIOSIS

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Problem statement: The aim of the study was to investigate relationship between expression of prolactin (RPRL) and dopamine (DRD2) receptors and progression of genital endometriosis (GE). **Methods:** The study included 47 patients of reproductive age (23 - 42 years). The main group consisted of 35 women with GE of I-III degree according to R-AFS classification. The diagnosis was stated during laparoscopy and confirmed by histological examination. The control group consisted of 12 women without gynecologic pathology. Levels of RPRL and DRD2 expression was assessed by immunohistochemical method using confocal microscopy in eutopic endometrium, ectopic endometrium and on peritoneum. Level of prolactin (PRL) in peripheral blood (PB) and in peritoneal fluid was investigated by immunochemiluminescent method. Statistica 10 program was used for statistical analysis. **Results:** Statistically significant increase in level of expression of RPRL in ectopic endometrium in patients with GE in comparison with this parameter in patients of the control group was observed. There was a significant decrease in expression of DRD2 in endometrioid heterotopies in comparison with controls. Negative correlation of expression level of DRD2 in endometrioid heterotopies with the level of PRL in PB of women with endometriosis was found. In the group of patients with GE of II degree, black foci were observed significantly more frequently compared with patients with GE of III degree. In patients with III degree of the disease red heterotopies (having high proliferative and angiogenic activity) reliably predominated which is consistent with pathophysiology of GE. **Conclusion:** Increased RPRL expression in endometriotic heterotopies indicates local increase in prolactin level which contributes to increase in proangiogenic potential, contributing to disease progression. However, decrease of expression of DRD2 in endometrioid heterotopy and its negative correlation with prolactin level in peripheral blood may contribute to spread of the disease and pathogenetically justifies the use of dopamine agonists as pathogenetic therapy of genital endometriosis.

OP2-712

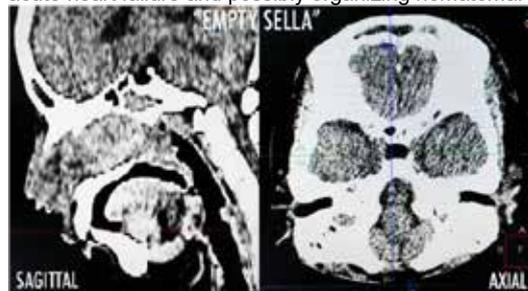
SHEEHAN'S SYNDROME IN A PATIENT PRESENTING WITH ORGANIZING HEMATOMA OF THE MAXILLARY SINUS

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Problem statement: Sheehan's syndrome is a rare complication of post-partum hemorrhage that has decreased in incidence in the past decade due to better obstetrical practices, although still seen in developing countries. This is a case of a 31-year-old Gravida 1 Para 1 (1-0-0-0) with a 1-year history of enlarging maxillary sinus mass, where an incidental finding of an empty sella in an MRI with contrast was noted. The patient had amenorrhea of 15 years and received no medications for her undiagnosed Sheehan's syndrome incurred during her first and only pregnancy. The patient's cardiomyopathy and organizing hematoma may be rare complications of Sheehan's syndrome.

Methods: This is a case report. **Results:** In retrospect, the patient's initial condition led to deleterious consequences. The postpartum hemorrhage caused Sheehan's syndrome, causing undiagnosed, long-standing hypothyroidism, which led to dilated cardiomyopathy, then causing chronic passive congestion of the liver. Hepatic damage then caused an increased risk for bleeding, which may have contributed to the formation of an organizing hematoma. **Conclusion:** Patients, laymen, health practitioners, and traditional birth attendants should be informed of these complications. Treatment should be individualized and administered after diagnosing a patient with Sheehan's syndrome to prevent complications such as adrenal insufficiency, hypothyroidism, infertility, and seen in this case, acute heart failure and possibly organizing hematoma.



OP2-801

OUTCOMES OF PREGNANCY OF UNKNOWN LOCATION USING SERUM BHCG AND ULTRASOUND IN A DISTRICT GENERAL HOSPITAL IN UNITED KINGDOM

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Problem statement: Pregnancy of unknown location (PUL) is defined as when the pregnancy test is positive but there are no signs of intrauterine pregnancy/ extrauterine pregnancy via transvaginal ultrasonography (TVUS). It is not always possible to determine the location of the pregnancy in PUL since both miscarriage and ectopic pregnancy may resolve spontaneously without any treatment. A large number of studies have focussed on diagnosis and management of PUL but there are controversies on the approaches used to predict the outcome. **Objectives:** To study the BHCG trends and correlation with the initial scan findings in patients diagnosed with PUL, determine the final diagnosis and management. **Methods:** This was a retrospective study conducted in 50 patients diagnosed with PUL. **Results:** The mean age of patients was 27.92. PUL rate was 13.9%. Risk factors for ectopic pregnancy was identified in 12%. The initial BHCG level was 1500 in 44% of cases. The Bhcg levels at 48 hrs were; 66% rise in 22%, 35% rise in 12%, 50% drop in 18% and 13% decrease in 6%. Initial scan findings showed a gestational sac in 32%; echopoor area in 28%; adnexal mass in 6%; a thickened endometrium-14% and no adnexal mass/ intrauterine pregnancy in 8%. Final diagnosis: 14%- ectopic pregnancy, 32% - IUP and 52% failing PUL. 38% of failing PUL's were managed expectantly. Bhcg level trends in 48 hrs for PULs eventually diagnosed as ectopic pregnancies

were -35% increase in 50% and increase 35% in 16.66%. In IUP 66% rise was seen in 56.25% while 6.25% showed a 35% rise. In 24% patients BHCG was repeated 3 times. **Conclusion:** The BHCG ratio is one of the best predictors of outcome in PUL. PUL rates should be kept below 15% by use of skilled sonographers in early pregnancy scanning to ensure appropriate diagnosis of PUL and decrease unnecessary monitoring and scans.

OP2-802

FIVE YEAR INCIDENCE OF OSTEOPOROSIS AMONG MACAO ADULT WOMEN AND ITS RISK FACTORS - RESULTS FROM MACAO FOLLOW UP STUDY 2011

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Problem statement: Osteoporosis is a disease that human have lose bone strength. Women have higher risk than man especially after the menopause. Several diseases may also related to osteoporosis. Majority of Macao residents are Chinese, being an Asian is also a risk too. This report will use the sample of Macao women who participated a five year follow up study in Macao to present the incidence osteoporosis and try to explore its risk factors. **Methods:** In 2006, 3119 adults attended a whole region's household randomized health survey in Macao. Data was collected by health assessment, questionnaires and laboratory tests. In 2011, a phone follow up was conducted and 2395 people answered the questions. After excluding those who are males and had osteoporosis before 2006, a total of 899 cases were included for analysis. The osteoporosis was defined by answering "yes" for the questions "If a doctor had told you that you had osteoporosis?". The SPSS17.0 was used for data analysis. **Results:** The five year self reported osteoporosis incidence was 7.8% in Macao women in 2011. Higher osteoporosis incidences were found in the women with diabetes, arthritis, kidney stone, anxiety, coronary heart disease, hypertension, or metabolic syndrome. These women also had lower education and took no soybean products. Women who developed osteoporosis, had higher mean values in age, BMI, SBP, DBP, Creatinine Urea, LDH in the baseline. In a logistic regression analysis with the osteoporosis status as dependent variable and significant variables listed above as independent variables, we found age and arthritis were significantly related to osteoporosis. Other variables became no significant. These variables seemed to be confounded by age. **Conclusion:** The osteoporosis incidence was 7.8% in Macao adult women. After adjusting effect from other related variables, Macao women with arthritis has a risk to develop osteoporosis 4.09 times (95%CI 2.15-7.81) as high as that of those without the arthritis.

OP2-803

THE IMPACTS ON MATERNAL AGE AND PERINATAL OUTCOMES SINCE THE BIRTH POLICY SHIFTS : POPULATION-BASED ANALYSIS

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Problem statement: To explore the changes in maternal age and perinatal outcomes with birth policy shifts. **Methods:** Data were from population-based birth defect surveillance system in Zhejiang province during 2012-2017. We divided study population into three groups as "only one child" (2012-2013) "second child" (2014-2015) and "universal two children" (2016-2017) according to policy changes. Chi-square test was used to compare the changes in proportion of maternal age and birth. Logistic regression mode presenting with Odds ratio and 95% confidence interval (OR and 95% CI) was used to estimate the risk for adverse perinatal outcomes across the periods compared with data in "only one child". **Results:** There were 49 253 childbearing women totally, which increased by 9.3% and 22.3% since ending "only one child" and "second child" policy. Concurrently, the proportion of multipara increased significantly from 20.2% at beginning to 42.3% in "universal two children" ($\chi^2_{趋势}=451.083, P0.001$). We witnessed upward trends in the

proportion of women aged ≤ 20 and at 35-39 years old over time ($\chi^2_{line}=5.869, P=0.015; \chi^2_{line}=216.602, P0.001$), which increased by 25.8% and 37.9% in "second child" and "universal two children". Adjusted by maternal age and compared with data in "only one child", risk for preterm birth ($OR_{adj}=1.20, 95\% CI 1.08-1.32; OR_{adj}=1.15, 95\% CI 1.04-1.26$) and LBW increased greatly ($OR_{adj}=1.14, 95\% CI 1.02-1.28; OR_{adj}=1.18, 95\% CI 1.06-1.32$), however, risk for birth weight $\geq 4000g$ decreased ($OR_{adj}=0.86, 95\% CI 0.79-0.94; OR_{adj}=0.85, 95\% CI 0.78-0.93$); no significant differences in perinatal mortality rate ($OR_{adj}=0.99, 95\% CI 0.70-1.40; OR_{adj}=0.74, 95\% CI 0.52-1.06$). Risk for multiple births increased in "universal two children" ($OR_{adj}=1.22, 95\% CI 1.07-1.40$). Risk for adverse pregnancy outcomes among multipara were not significant throughout the periods, despite multipara had higher adverse pregnancy rates than primipara. **Conclusion:** With birth policy adjustment, the proportion of multipara, women with younger or old age should be focused on for sharp increase. Additional, preterm birth and LBW should be highlighted for the increased risks over time.



OP2-804

HUMAN OVERPOPULATION AS THE GREATEST CHALLENGE FOR GYNECOLOGY IN THE 21ST CENTURY

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Problem statement: A significant part of the current, as well as future, global problems in the vein of environmental, healthcare, political, economic, and social issues, is directly linked to the size of human population. This report intends to show the gynecological audience how severe the problem of human overpopulation, which humankind is witnessing nowadays, really is, and that is linked with current gynecological problems. In particular, the global epidemic of unintended pregnancies and insufficient availability of family planning methods are discussed, notably in Sub-Saharan Africa where the problem of human overpopulation is (and will be) most severe. **Methods:** This report is based on data from United Nations (World Population Prospects – 2019 Revision), Population Reference Bureau (2016 World Population Data Sheet), FIGO's Committee for Women's Health and Human Rights (2017 Newsletter – Women's Health Challenges), FIGO's presentation on The Global Epidemic of Unintended Pregnancies, and World Healthcare Organization's 2017 Sheet on Family Planning and Contraception. **Results:** In mid-2019, the world's population reached 7.7 billion. Even though the fertility level is declining and population growth is slowing down, human population grows over 80 million people a year. According to the projections, the human population will keep growing, reaching 9.7 billion in 2050 and nearly 11 billion in 2100. The population growth is (and will be) most dramatic in Africa. Nearly 41% of all pregnancies worldwide are unintended. Though contraceptive use has risen globally, it is still very low in Sub-Saharan Africa (28% in 2015), and availability of family planning methods worldwide still does not meet current global needs. **Conclusion:** The crucial problem of human overpopulation should become the greatest challenge for gynecology of the 21st century. The main reason is that the solution to gynecological problems, such as the epidemic of unintended pregnancies with all its consequences, overlaps with the solution to human overpopulation. In order to succeed, support of women's rights, education, and empowerment worldwide are essential alongside a direct, systematic and global involvement of gynecologists and their organizations, with particular focus on Africa.



OP2-805

A CASE REPORT ON HAMMAN'S SYNDROME**Nikit Kadam***Department of Obstetrics and Gynaecology, Doncaster and Bassetlaw Teaching Hospitals, UK*

Background: Hamman's Syndrome is spontaneous pneumo-mediastinum and subcutaneous emphysema seen post-partum. It is a rare clinical entity seen in pregnancy and labour with crude incidence of 1 in 100,000. There are only 200 reported cases of Hamman's Syndrome in the literature so far. **Case Description:** A healthy 31 year old primigravida developed pneumo-mediastinum and emphysema following a normal vaginal delivery at 40 weeks and 4 days of gestation. She had an uneventful antenatal course. She was non-smoker with no significant past medical history. She presented in spontaneous labour. The total duration of labour was roughly 9 hours. The second stage of labour lasted for 1 hour and 45 mins. Roughly 10 hours after delivery she complained of chest tightness, shortness of breath and dysphagia. Her vital signs were stable, oxygen saturation being 97% on air. Heart sounds were normal. There was reduced air entry on the right side. On clinical examination crepitus was palpable at the base of the neck. Her investigations including ECG, arterial blood gases, Chest X-ray were normal. CTPA confirmed pneumo-mediastinum and subcutaneous emphysema. Her care was taken over by the surgeons who performed a CT Thorax and abdomen 48 hours after the initial CTPA. This ruled out Oesophageal rupture and reduction in pneumo-mediastinum. She was managed conservatively and discharged after 72 hours. An Oesophago-Gastro-Duodenoscopy 3 month later was normal. **Literature review:** Hamman's Syndrome is also called as 'Maclin's Effect'. It was first reported in 1945. It is believed to be caused due to barotrauma which results in spontaneous rupture of alveoli in the second stage of labour. This leads to air leakage in the bronchovascular connective tissue. Valsalva manoeuvre, screaming, coughing could be the triggering factors. The intra-alveolar pressure can be as high as 50mm of Hg. It is usually a benign condition but can lead to life threatening Cardiac tamponade. The differential diagnosis include Pulmonary Embolism, Oesophageal rupture, Rupture of Aortic aneurysm. CT is the gold standard investigation modality. The management is mainly conservative which comprises of analgesia, oxygen and re-assurance. There is limited published evidence on recurrence and mode of delivery in subsequent pregnancies. *There is no conflict of interest*

OP2-806

CHANGES IN INTERVERTEBRAL DISCS WITH THE MENOPAUSE AND HRT**Joel Pollacco, Nicolas Felice, Yves Muscat-Baron, Mark Brincat**
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Problem statement: Vertebral fracture is a very common osteoporotic fracture, the cause of which can be mostly attributed to reduced bone density. Intervertebral discs are an integral part of the skeleton and are important in function. Therefore, reduced intervertebral disc height might predispose to fractures. **Method:** A Cross Sectional Study was done by recruiting women from a large bone densitometry registry. These were divided into categories according to whether they were pre-menopausal, untreated post-menopausal women or women on various post-menopausal treatments including HRT. Three inter-vertebral disc heights were measured between [T12 and L1 (D1), L1 and L2 (D2) and L2 and L3 (D3)]. A cohort of 1080 women were analysed. **Results:** HRT women had no significant changes compared to pre-menopausal women but highly significant improvement compared with strontium ranelate and particularly to women on bisphosphonates who had the lowest highly significant reduction in intervertebral disc height. In addition there was a significant reduction in disc height in pre-menopausal women with age which accelerated in the immediate menopausal period (51-60) years. This was seen in every disc analysed. When disc heights were compared to T-scores, those women who were osteopenic and osteoporotic had lower disc heights than women with normal T-scores. **Conclusion:** Inter-

vertebral disc heights present a new variable that impacts on bone integrity and incidence of osteoporotic bone fractures. Inter-vertebral discs are susceptible to osteoporosis at the time of the menopause just like other connective tissues including bone and skin. It is suggested that not all anti-osteoporotic agents have the same effect on inter-vertebral disc integrity and this might have to be borne in mind when considering the most suitable treatment according to the individual's needs.

OP2-807

PATIENT-CENTRED OR PATIENT-FRIENDLY: WHAT OF THEM IS THE MOST RELEVANT STANDARD VALUE IN ASSISTED REPRODUCTION TREATMENTS?**Guillermo Quea¹, Guillermo Quea¹, María José Martínez-Cañavate¹, Gorka Barrenetxea^{1,2}**¹*Assisted Reproduction Unit, Reproducción Bilbao, Bilbao, Spain*²*School of Medicine, Basque Country University, Bilbao, Spain*

"Reproducción Bilbao", a Fertility Centre in Bilbao, Spain certified in 2018 according to ISO 9001-2015 introduced recently a quality management system (QMS) to improve quality in our centre. There is no simple definition of quality improvement however, most definitions describe it as a systematic approach that uses specific techniques to improve quality. Within healthcare, there is no accepted definition of "quality" and has been identified six dimensions of healthcare quality. These state that healthcare must be: "safe, effective, patient-centred, timely, efficient and equitable". Nevertheless, the question of what is quality in assisted reproduction techniques (ART) still remains. Is it just pregnancy rates? Or should we look at something else? To answer these questions, we focus on determining the most relevant standard value of success in ART, considering the whole treatment to improve our outcomes and the concepts of "patient-centred" and "patient-friendly" were introduced. "Patient-friendly" has been traditionally defined as the best possible outcome with greatest efficiency, using the most cost-effective and least invasive regimens. By the other hand, "patient-centred" establish a partnership between practitioners and patients to ensure care respects patients' needs and preferences. According to these concepts, we focus all our efforts towards "patient-centred" care directing our activity to meet the needs of our patient and couples according to what was obtained in satisfaction survey such as: "Competence of clinic and staff, coordination and integration, continuity, physical comfort, emotional support, patient involvement and privacy" taking into account that our weaknesses or strengths related to system factors are directly related to human factors and the priority is always the patient. What were the barriers to success in quality improvement? Basically four: "convincing people that there is a problem; the organisational context, culture of organization and capacities; tribalism and lack of staff engagement; convincing people that the solution chosen in the right one".

OP2-808

SEXUAL PRACTICE IN PREGNANCY IN WOMEN OF LOW SOCIOECONOMIC STATUS IN A TERTIARY CARE HOSPITAL IN NORTHERN INDIA**Ananya Banerjee¹, Chanda Rai², Manisha Meena²**¹*Obstetrics and Gynecology, Hereford County Hospital, Hereford, UK*²*Obstetrics and Gynecology, VMMC and Safdarjung Hospital, New Delhi, India*

Problem statement: Sex in pregnancy remains a rarely discussed topic in India because of social taboos and the embarrassment couples and clinicians face in discussing these issues. In view of hormonal changes, both physical and psychological changes occur in a pregnant woman and it affects her sexual life. **Aim:** This study is an attempt to understand the attitude, knowledge and behaviour of pregnant women regarding their sexual practices, the fears they encounter, and ways to dispel these psychological issues. **Materials and methods:** A cross-sectional descriptive study was carried out in the department of Obstetrics & Gynecology at VMMC & Safdarjung Hospital, New Delhi, India. 230 women were asked open ended questions about their sexual practice and variation in the different trimesters. Data was analysed by SPSS software. **Results:** Our



study showed that the frequency of sexual activities in the first, second and third trimester were 36.6%, 43.9% and 6.3% respectively thereby showing a decline in the third trimester. Around 9.8% women refrained from coitus throughout pregnancy. Vaginal intercourse remained the most common type of sexual activity in 75.6% of the population. 12.2% of the women indulged in oral sex, and 8.3% found sexual appeasement in masturbation and 3.9% of women had anal intercourse. The level of knowledge of the respondents was below average, the impact of the beliefs related to sexuality during pregnancy was weak. Libido increased in 31.2% of women and decreased by 38% of women and remained same in 30.7%. The factors prohibiting coitus included the risk of preterm labour, bleeding and chances of infection to the baby. **Conclusion:** Counselling for sexual health must be initiated by the health workers as it will help couples who are embarrassed to discuss these issues owing to the social and cultural norms. This will help to bridge the communication barrier and will be instrumental to a healthy sexual life during pregnancy.

OP2-809

STRESS AMONG PREGNANT WOMEN APPLYING FOR BIRTH PREPARATION TRAINING

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Problem statement: Stress during pregnancy can contribute to adverse pregnancy outcomes such as low birth weight and preterm delivery. Therefore, measurement and follow up of psychological health in pregnant women is an important subject. The aim of this study was to evaluate the stress status of pregnant women applying for childbirth preparation education.

Methods: The descriptive study was carried out with pregnant women (n=106) who applied to the pregnant outpatient clinic of a maternity hospital and volunteered to participate in the study. Personal information form and Pregnancy Stress Rating Scale were used as data collection tools. Pregnancy Stress Rating Scale is developed by Chen (2015) identify pregnancy-related stress factors in pregnant women. It consists of 5 sub-dimensions (1) pregnancy, labor and delivery process stress, (2) infant care and changing family relationships stress, (3) mother role stress, (4) social support seeking stress, (5) physical change stress and 36 items. The score that can be obtained from the scale is in the range of 0-144 points. The higher stress scores indicates increased stress. In the analysis of the data; number, percentage, mean, standard deviation, independent samples t test and Anova analysis were used. **Results:** A total of 106 pregnant women admitted to the antenatal outpatient clinic were included in the study. The mean age of the pregnant women was 30.44±4.51, 64.2% were university graduates, 79.2% were in the first pregnancy, 44.3% were in the second trimester and 54.7% were in the third trimester. The mean score of Pregnancy Stress Rating Scale pregnant women was 64.01±19.10. Mean score of infant care-induced stress subscale 15.63±6.85, maternal role-induced stress mean score 15.85±5.15, pregnancy and childbirth stress mean score 13.12±3.84, physical appearance-induced stress mean score 11.46±4.77, lack of social support mean score 7.94±4.01. Stress scores of pregnant women in second trimester were higher than others (p 0.05). Training and spousal support did not affect stress score during pregnancy (p0.05). **Conclusion:** As a result, pregnant women experienced the most stress on the role of baby care and motherhood.

Key words: pregnancy, stress, childbirth, motherhood.

OP2-810

ORGAN-PRESERVING SURGERY FOR ABNORMAL INVASION PLACENTA

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Problem statement: To evaluate the effectiveness of complex compression hemostasis in patients with different depths of trophoblast invasion. **Methods:** A retrospective analysis of the data of 98 patients with a diagnosis of ingrowth of the placenta, confirmed by pathological examination, was carried out. Patients were divided into 3 groups, depending on the depth of trophoblast invasion. All pregnant women with suspected ingrowth of the placenta after ultrasound examination and MRI were treated promptly in the amount of lower median laparotomy with a navel bypass to the left, bottom caesarean section, complex compression hemostasis, balloon tamponade of the uterus, metroplasty, reinfusion of autoerythrocyte cells. **Results:** Data from 98 pregnant women were analyzed, the diagnosis of placenta accret was confirmed in 28, increta in 64, percreta in 6 patients after the morphological study. A cicatricial scar after a cesarean section has a history of occurrence in all women with an increase in the placenta, but there was no difference in the frequency of surgical interventions (p = 0.476). Endometrium vacuum aspiration was present in a history of 11.1% of patients with placenta accreta and 33.3% of patients with placenta percreta (p = 0.355). The volume of total blood loss increased: with placenta accreta was 975 ml, with placenta increta - 1300 ml, with placenta percreta - 2200 ml (p = 0.048). Performing hysterectomy was often required by patients with a more pronounced degree of ingrowth of the placenta (p = 0.038). **Conclusion:** The interrelation of the volume of blood loss and the depth of trophoblast invasion was noted, which allows us to develop the most optimal tactics in relation to prediction and surgical tactics during delivery of pregnant women with the growth of the placenta. However, further study of this problem is necessary to improve outcomes in patients with the most severe cases of this pathology. *Disclosure of interest: authors have nothing to disclose*

OP2-811

PREGNANCY OUTCOMES IN WOMEN WITH MYELOPROLIFERATIVE NEOPLASMS

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Problem statement: Ph-negative myeloproliferative neoplasms (MPN) are a group of hematologic diseases that occur rare in reproductive age. However, in recent years there has been an increase in their frequency, including pregnancy. A high risk of thrombotic complications in vessels of various localization is one of the main features of MPN. During pregnancy this causes a significant increase in the frequency of recurrent miscarriage. The aim of the study was to analyze the course of pregnancy in women with MPN. **Methods:** We analyzed 167 pregnancies in 95 women with MPN. The prospective group 1 included 82 women who were treated according to the developed algorithm. Retrospectively we have analyzed 76 pregnancies in 46 women (group 2) who did not receive a special treatment during pregnancy. Pregnancy outcomes, complications and neonatal health status were evaluated in both groups. The algorithm included cytoreductive therapy (interferon alfa), antiplatelet drugs, low molecular weight heparin, plasmapheresis, vitamins of group B. **Results:** In the group 1 the rate of miscarriage was - 3.3%: 2 cases of spontaneous abortion, 1 case - stillbirth (one fetus from twins). In group 2 miscarriages occurred in 76.3%: spontaneous abortion - 49 (64.5%) pregnancies, stillbirth - 9 (11.8%). Preterm labor were in 12 (13.2%) and 7 (9.2%)



pregnancies in 1 and 2 groups respectively. Full-term delivery occurred in 84.6% and 7.9% of cases in both groups ($p=0,002$). Pregnancy was uncomplicated in 25.8% and 15.4% cases in 1 and 2 groups. The most often pregnancy complication was anemia – in 51.7% and 38.5% cases. The health status and frequency of congenital malformations in children born to mothers with MPN did not differ from those in the healthy population. **Conclusion:** Pregnant women with Ph-negative MPN belong to a high-risk group on recurrent miscarriage. The development of a program for pregnancy planning and management in women with MPN led to a significant reduction in reproductive losses from 76.3% to 3.3% and to a downward trend in the number of pregnancy complications from 84.6% to 74.2%. The health status of children does not differ from that in the general population. *Authors have nothing to disclose*

OP2-812

SYMPTOMATIC MECKEL'S DIVERTICULUM – A RARE TRIGGER OF PRETERM LABOUR

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Introduction: Meckel's diverticulum is a rare cause of acute surgical pathology in pregnancy. We present a case of symptomatic Meckel's diverticulum in a preterm twin gestation pregnancy, triggering the onset of preterm labour. **Case Report:** A 32-year-old nulliparous woman was admitted with preterm prelabour rupture of membranes at 33 weeks' gestation of her dichorionic diamniotic twin pregnancy. Conservative management was adopted, oral antibiotics and dexamethasone were administered for fetal lung maturation. Inflammatory makers, parameters and cardiotocography monitoring were stable. Close to her 34th week of gestation, the patient developed worsening right iliac fossa pain. Examination revealed tenderness over the right iliac fossa with rebound and guarding. A preliminary diagnosis of acute appendicitis was made. The surgeons reviewed the patient and requested repeat inflammatory markers and an ultrasound abdomen. Later the patient developed palpable regular uterine contractions and a vaginal examination revealed cervical dilatation of 1-2 cm. Preterm labour was suspected. Consequently, the patient was transferred to labour ward and an infusion of magnesium sulphate was commenced for neuroprotection of the fetuses. Due to increasing contractions, a repeat vaginal examination was performed, confirming cervical progress. A decision for caesarean section was agreed upon. During surgery an erythematous appendix was noted. The general surgeons were called to theatre and a heavily inflamed, necrotic Meckel's diverticulum was found. This was resected and an appendectomy was performed. The mother and her neonates made an uneventful recovery and she was discharged home five days later. A diagnosis of an inflamed, congested and necrosed Meckel's diverticulum was confirmed on histopathology. **Conclusion:** Meckel's diverticulum is present in 1-3% of people. Pregnant patients are at risk of developing any cause of acute abdomen with potential deleterious consequences on the patient. Moreover, signs and symptoms of surgical pathology may be misleading in pregnancy, with the gravid uterus displacing the right side of the colon and caecum, obscuring the clinical picture. Pregnant patients are usually healthy and can physiologically compensate quite well before collapsing. A good history and thorough examination, optimal imaging and a high index of suspicion are necessary to make an early diagnosis and reduce morbidity and mortality.

OP2-901

CHANGES IN OVARIAN RESERVE AFTER LAPAROSCOPIC CYSTECTOMY OF OVARIAN ENDOMETRIOMAS – A PROSPECTIVE LONGITUDINAL STUDY FROM HANOI OBSTETRICS AND GYNECOLOGY HOSPITAL, VIETNAM

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Problem statements: Endometriomas are common gynecological disease with major clinical manifestations of pain and infertility. Laparoscopic cystectomy of ovarian endometriomas (LCOE) is a widely used treatment but may affect ovarian reserve (OR). However, after LCOE, how OR changes and depends on what factors remains unclear. **Objectives:** To evaluate OR change by serum anti-mullerian hormone (AMH) level and to find out the factors that may affect the changes 1, 3 and 6 months after LCOE. **Methods:** A prospective longitudinal study from 2015-2017, 104 patients underwent LCOE, serum AMH level was measured preoperatively and at 1, 3 and 6 months postoperatively. Many factors were assessed to find the association with AMH level changes. **Results:** Preoperative AMH level significantly declined from 4.47 ± 2.88 ng/ml to 2.11 ± 1.88 ng/ml ($P0.0001$), 1.96 ± 1.67 ng/ml ($P0.0001$) and 1.97 ± 1.50 ng/ml ($P0.0001$) at 1, 3 and 6 months postoperatively, respectively. The rate of reduction in AMH was unchanged during 6 months after surgery of $46.2 \pm 39.3\%$, $48.7 \pm 34.1\%$ and $47.8 \pm 35.9\%$, at 1, 3 and 6 months, respectively. Although most of the investigated factors were associated with AMH level changes in monovariant linear regression, multivariant regression analysis shown that only three of them were actually related including laterality of endometrioma, mean size of the endometrioma and preoperative serum AMH levels. Among these 3 contributing factors, the laterality of endometrioma appeared to have the greatest impact on the change in AMH levels. **Conclusion:** Serum AMH level declined significantly after laparoscopic cystectomy of endometriomas. This decreased level of AMH depends on laterality of endometriomas, mean size of the endometrioma and preoperative serum AMH levels and it can be predicted preoperatively.

OP2-902

SILDENAFIL MIGHT IMPAIR MATERNAL-FETAL IMMUNOTOLERANCE BY SUPPRESSING MDSCS

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Problem statement: Polymorphonuclear myeloid-derived suppressor cells (PMN-MDSCs) was found to downregulate T cell receptor (TCR) ζ -chain expression, polarize T-helper (Th)1/Th2 toward Th2 response and induce regulatory T (Treg) cells, therefore enhancing the immunotolerance in maternal-fetal interface. Investigations on tumor immunity have shown that phosphodiesterase type-5 (PDE-5) inhibitor such as sildenafil could reduce MDSC-dependent immunosuppression and magnify T cells infiltration and activation in mice. **Methods:** This was a prospective case-control study conducted in 26 recurrent implantation failure (RIF) patients and 35 women who underwent the first in vitro fertilization and embryo transfer (IVF-ET) cycles and obtained clinical pregnancy. Thirty-six BALB/c female mice were divided into control group (sterile saline), low-dose group (10mg/kg sildenafil) and high-dose group (20mg/kg sildenafil). The frequency and function of MDSCs, Treg, CD4⁺ and CD8⁺ effector T (Teff) in peripheral blood mononuclear cells (PBMCs) from RIF patients and control group women were measured by flow cytometry. Concentration of cytokines was detected by ELISA. PBMCs and endometrial single cell suspension from



mice were characterized by flow cytometry. **Results:** Compared with control group, women with RIF had decreased percentages of PMN-MDSCs (P 0.05), Chemokine receptors (CCR)5⁺PMN-MDSCs (P 0.01) and Treg cells (P 0.05). TCR ζ -chain expression of CD4⁺ and CD8⁺ T eff cells in PBMCs from RIF patients was elevated as well, compared to that in control group (P 0.05). Chemokine ligand (CCL)5 and transforming growth factor (TGF)- β levels were significantly lower in the serum from RIF patients when compared to control (P 0.05). In mice PBMCs, we found that PMN-MDSCs in the low-dose group (P 0.05) and the high-dose group (P 0.01) was significantly reduced compared to the control group, meanwhile Treg cells (P 0.05) and Th2 cells (P 0.05) also showed a deletion in high-dose group. By analyzing endometrial single cell suspension, we detected decreases of PMN-MDSCs (P 0.05), monocytic (Mo)-MDSCs (P 0.05) and increases of Th1 cells (P 0.05) in high-dose group. **Conclusion:** Impairment of PMN-MDSCs may be part of the pathogenesis of RIF and PDE5 inhibitor may affect embryo implantation by suppressing MDSCs.

OP2-903

EFFECTIVENESS OF HYSTEROSCOPY ISTHMOPLASTY IN SECONDARY INFERTILE PATIENTS DUE TO ISTHMOCELE

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Problem statement: Cesarean section is one of the most common surgical procedures performed worldwide especially in developing country like Vietnam, and one of its most serious consequences is the increasing number of secondary infertility due to isthmocele. There are several methods to solve this problem but none of them until now has demonstrated its effectiveness. **Method:** From January to August 2019, 20 patients with secondary infertility due to isthmocele was treated by hysteroscopy isthmoplasty in the first part of their cycle in Vinmec International Hospital, Hanoi, Vietnam by the same surgeons. After that 12 of them received frozen embryo transfer in the next cycle, adjunctive liquid aspiration was performed as needed. Embryos day 4 or day 5 was transferred in different grade of quality. We conducted a retrospective study to evaluate the effectiveness of this approach to treat this condition. **Results:** The majority of patients needed liquid aspiration form uterine cavity during the endometrium preparation (66%). All of them had an endometrium with more than 7mm in thickness, Doppler type II, triple line and without liquid inside before FET. Among those who received FET, 8 of them become pregnant after the first attempt (66%) and 4 of them failed to become pregnant (34%). **Conclusion:** Hysteroscopy isthmoplasty could be an effective method to manage secondary infertility due to this condition. Larger and randomized control trial study should be performed to evaluate this method more accurately.

OP2-904

THE INFLUENCE OF LEGAL AND TECHNOLOGICAL EVOLUTIONS ON PATIENTS' BEHAVIOUR USING DONOR EGGS: A BRITISH EXPERIENCE

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Problem statement: While treatment with egg donation is increasing in importance, sourcing donor eggs remains a challenge. The changing regulatory landscape together with advances in technology are likely to be impacting on the characteristics of egg donors, the way in which eggs are utilized and trends in cross border treatment. In this study we report how these changes have altered our practice over the past 13 years. **Methods:** This retrospective study reviews over 2000 treatment cycles using donor eggs from 2005 to 2018. The study focuses on the donor egg sources, frozen egg use, demographics of patients receiving treatment with donor eggs and pregnancy outcomes. **Results:** The 2012 legal changes in United Kingdom regarding egg donation and the creation of a local egg bank

reversed the previous trend to seek cross border treatment for egg recipients. Since 2014, all our recipients have been treated with donor eggs from the nearby London Egg Bank. Moreover, the egg sharing programme providing eggs to 17% of the recipients in 2013 dropped to one case in 2018. The demand for treatment with the donor eggs appears stable among our patient population. Despite the permissive local legislation regarding the age limit for fertility treatment, the demand for treatment for recipients over 50 years old remains limited. The most striking change has been the growth in the use of frozen eggs. Comparable pregnancy outcomes are now achieved using frozen or fresh oocytes, and this has led to 95% of recipients now receiving treatment with frozen eggs compared with just 1% in 2013. **Conclusions:** Although limited to one centre, this descriptive study illustrates how legal and technological changes have resulted in remarkable change in the sourcing and profile of donors, and the way in which their eggs are being utilized in clinical practice.

OP2-905

THE ADVERSE EFFECT OF BODY MASS INDEX IN ASSISTED REPRODUCTION TREATMENTS AND PREGNANCY OUTCOMES

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Problem statement: There is compelling evidence about the negative impact of obesity in assisted reproduction treatments (ART), however the published studies lack attention on obstetrical outcomes such as related pregnancy complications and live birth rates. **Methods:** The present study aimed to evaluate the impact of body mass index (BMI) in ART cycles, and pregnancy outcomes after fertilization in vitro treatments (FIV), between 2014 and 2017 at our tertiary care center. Cycles with donor gametes were excluded. The BMI categorizations were as follows: normal – 18.5-24.9 kg/m² (n=423); overweight – 25.0-29.9 kg/m² (n=122); obese – \geq 30.0 kg/m² (n=51). The retrospective data about the ART cycles and ongoing pregnancies were analyzed with SPSS®. $p < 0.05$ was considered significant. **Results:** A total of 596 cycles meet the inclusion criteria. The mean age was 35 years (25-40 years). Being obese was associated with longer infertility time compared to the normal BMI group (4 versus 3.5 years respectively; $p < 0.05$). There was a trend to higher BMI being associated with more previous ART cycles, higher stimulation gonadotropin doses needed, days of stimulation, and canceled cycles; however these results didn't reach statistical significance ($p < 0.05$). For those cycles with embryo transfer (n=471), a higher class of BMI was associated with lower fecundation (62.5% vs 60% vs 57%; $p < 0.05$), and lower pregnancy rates (37% vs 36% vs 26%; $p < 0.05$). On the other hand, the miscarriage rate among obese women was higher compared to those with normal BMI (30% versus 25% respectively; $p < 0.05$). Eighty five of the 124 pregnancies were followed at our center (57 singletons and 28 twin pregnancies). Despite the high rate of at least one complication during pregnancy [30 (53%) of the singletons and 21 (75%) of the twin pregnancies, of which 40% and 80% demanded inpatient care, respectively], the global live birth rate was 99.3% (only one stillborn in a normal BMI range patient). There were no significant differences between BMI classes. **Conclusion:** Increasing prepregnancy BMI appears to progressively worsen the outcomes of ART treatments. A multidisciplinary management throughout gestation seems to be key to enhance pregnancy outcomes, however results were limited by the small sample size.

OP2-906

BIOPHYSICAL ULTRASONOGRAPHIC MARKERS ASSESSMENT OF ENDOMETRIAL RECEPTIVITY IN ASSISTED REPRODUCTIVE TECHNOLOGY CYCLES

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Problem statement: Human implantation is a complex process requiring synchrony between a healthy embryo and a functionally competent or receptive endometrium. Ultrasound is a non-invasive technique that can assess changes in the endometrium during stimulated cycles in Assisted Reproductive Therapy (ART) cycles. The aim of this study is to correlate biophysical markers throughout the ART cycle with the endometrium changes. **Methods:** Serial 2D transvaginal coloured power doppler ultrasound performed in women on ART cycle to evaluate a pattern that better predicts implantation rates. 169 subjects on a prospective case control study were assessed. Biophysical ultrasound markers such as Endometrial pattern, endometrial thickness, endometrial volume and adjusted endometrial volume and Uterine Artery and SubEndometrial Resistance and Pulsatility Index was performed to all subjects at baseline (prior to ovarian controlled stimulation), at day 6, 8 and 10 of controlled ovarian stimulation, at trigger day and at embryo transfer day. Also the ratio of fluxometry parameters between SubEndometrial blood flow and uterine artery was measured. **Results:** No statistical difference was noted between the two groups in terms of demographics and ART procedures and scores. Endometrium Morphology also didn't show any difference between the two groups. Endometrial Thickness was significantly higher on the implantation group after Day 8 of controlled ovarian stimulation, but Endometrial Volume and Adjusted Endometrial Volume was significantly higher in the implantation group as soon as day 6 of ovarian controlled stimulation. Uterine Artery Resistance and Pulsatility Index showed statistical difference between the two groups (implantation versus non-implantation group). Also statistical significance was obtained between the two groups in terms of SubEndometrial vascularization. Ratio between SubEndometrial and Uterine Artery showed lower values of fluxometry parameters in all range for the SubEndometrial territory. **Conclusions:** Biophysical ultrasonographic markers may be a useful tool for clinicians in predicting endometrial receptivity enhancing elective embryo transfers in the same ART cycle. **Keywords:** Endometrial Receptivity, Assisted Reproductive Technology, Endometrial Volume, Subendometrial blood flow, Uterine Artery Fluxometry, Embryo Implantation. The authors do not report any conflict of interest.

OP2-907

VITRIFICATION OF HUMAN OOCYTES: HOW TIMING BEFORE FREEZING AND AFTER THAWING AFFECT UTILIZATION EFFECTIVITY AND STATE OF THAWED OOCYTES

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Problem statement: Recent advances in oocytes vitrification have markedly improved the survival rate of mature oocytes after thawing. Despite the standard use of the vitrification it is not clear what is the exact impact of time before oocytes freezing and after thawing on the probability of success in oocytes fertilization and how are these factors correlate with thawed oocyte chromosomes organization and state of meiotic spindle. **Methods:** Matured oocytes for statistical purposes were collected from donors (younger than 35 years, 317 oocytes, in the scope of Egg donation program). Oocytes were obtained in prophase II or metaphase II. Oocytes were vitrified using media from Kitazato. The imaging was done with an Olympus IXplore SpinSR10 (Olympus, Tokyo, Japan) confocal fluorescence microscope with a spinning disc and a super-resolution SIM

module. **Results:** The average probability to fertilize vitrified oocytes after thawing was 61%. For time intervals before freezing - 4-7 hours and 7-10 hours the dispersion of the average probability was 5 % round average value. Time before freezing had similar impact on probability to fertilize vitrified oocytes after thawing as time between oocytes thawing and fertilization. The average probability that collected oocytes will be after thawing utilized is 34%. Time before freezing plays more important role than time between thawing and ICSI. Oocytes frozen 4-7 hours after collection had grouped chromosomes after thawing and the average probability that these oocytes will be after thawing utilized was 27%. The average probability that collected oocytes would be after thawing utilized was 41% when oocytes were vitrified 7-10 hours after collection. These oocytes had separated chromosomes (formed meiotic spindle) after thawing. **Conclusions:** When oocytes were frozen at stage with formed meiotic spindle and separated chromosomes (typical for oocyte matured in metaphase II)-more than 6 hours after retrieving the probability that this oocyte would be successfully utilized after its thawing was high. We showed that freezing of human oocytes before the meiotic spindle was formed lead to worse post-thaw conditions. Vitrification of the oocytes too early before final metaphase II maturation may disturb the crucial process of chromosome and spindle post thaw remodeling.

OP2-908

HEALTH SAVING TECHNOLOGIES IN XXI CENTURY – BASIC CONCEPTS OF HPV-ASSOCIATED DISEASES CONTROL IN RUSSIAN FEDERATION

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Problem statement: More than 17,587 women a year in Russian Federation are diagnosed with cervical cancer and about 40% of this women die. Therefore, development and implementation of vaccination and screening programs of HPV associated diseases in Russian Federation is crucial. **Methods:** Social survey was conducted among 2500 medical doctors and 13870 women of different Russian regions with regards to screening and vaccination of HPV-associated diseases. We developed professional competencies' models in educational programs both for medical personnel and for Russian Federation women population in general in order to evaluate efficiency of such programs. **Results:** Professional competencies' model in educational programs for the medical personnel included visualizing, modelling media virtualizing, information management and CASE-system of decision making during continuous medical education technological process. Professional competencies' model in educational programs for Russian Federation women population in general included innovative technologies of interactive discussion of HPV-associated diseases. **Conclusion:** Professional competencies' model in educational programs for the medical personnel helped to create and increase competency with regards to screening and vaccination of HPV-associated diseases by 12,5 times. Professional competencies' model in educational programs for Russian Federation women population in general enabled to perform planned vaccination at a level of 90-93% in different Russian Regions.

OP2-909

URINARY HPV DNA TESTING AS A TOOL FOR CERVICAL CANCER SCREENING IN FRANCE: AN UPDATE OF THE CAPU3 STUDY

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Problem statement: In France, since July 2019, cervical cancer screening is based on HPV testing on Pap smear for women aged 30 to 65, and cytological examination of a Pap smear for women aged 25 to 29. But screening coverage is unsatisfactory. Previous studies in our lab have shown that urinary HPV testing for high-risk HPV (HR-HPV) testing increases rates of compliance. In collaboration with the Cancer screening coordination center of the Pays de la Loire region, we conducted a study to offer urinary HPV testing for 13000 women aged 35 to 65 who don't have regular cervical smear in order to increase the screening coverage in our department. **Methods:** 500 to 700 letters proposing an at-home urinary HPV testing are sent monthly. Women accepting to participate send their first-stream urine samples by mail to the Virology Laboratory in accordance with a three-rule secure packaging protocol as recommended in France. HR-HPV detection is performed using Anyplex II HPV28 Detection (Seegene®) that detects 19 HR-HPV genotypes. Patients with HR-HPV positive results are encouraged to perform a cervical smear as soon as possible to detect the presence of cervical lesions. **Results:** Between November 2016 and November 2018, 13535 letters were sent to women. After exclusion (past hysterectomy, recent smear or refusal), the participation rate is 15.4%. Out of the 1915 analyzed specimens, 1711 and 190 were negative and positive for at least 1 HR HPV respectively. HR-HPV others than HPV 16 or HPV 18 were mostly detected as HPV 53 (23.7%) and HPV 68 (14.2%). Invalid results occurred in only 14 samples (0.7%). Among the smears, 23 abnormal smears were observed and 6 high-grade cytological lesions after colposcopy and biopsy have been detected. **Conclusion:** Because home HPV urinary testing is non-invasive and does not require medical attention, this method may be an alternative for women who are reluctant to use Pap smear. Furthermore, 89.5% of the HPV-positive women benefited from a Pap smear collected by a clinician during follow-up. So, the urinary HPV test could be an alternative to the usual screening by cervical smear thus extending screening coverage in our department.

OP2-910

INTERNATIONAL HPV AWARENESS DAY IN RUSSIA ON MARCH 4, 2019 - GLOBAL RUSSIAN ACTION FOR CERVICAL CANCER PREVENTION

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Problem statement: More than 17,587 women a year in 85 regions of Russia are diagnosed with cervical cancer and about 40% of this women die. Doctors and women oriented educational programs were developed to implement screening and vaccination programs. A part of this strategy was Russian Global action for celebration of International HPV Awareness Day on March 4, 2019. **Methods:** There were two major types of events on March 4, 2019. **Doctors oriented program** consisted of a webinar broadcasted to 85 Russian Regions with five lectures of top Russian doctors according to Continuous Medical Education requirements and live Regional Conferences. **Women oriented program** was realised by 3 key activities. A local web site www.деньвпч.рф (meaning hpvday) was created and promoted to be shown to the majority of Russian women explaining what is HPV and common myths about it. At the bottom of the site there was a map of Russia where anyone could click in order to see where to perform vaccination and screening locally. Banners were shown in Russian social networks. Distribution of flowers and leaflets explaining HPV, its consequences and prevention opportunities was done. Free of charge medical consultations were provided too. **Results:** Within the Doctors oriented program 20 000 online connections were achieved during the webinar with a coverage of 85 Russian Regions and 10 live Regional conferences were organized. Within the Women oriented program the website was visited by 4 million people, 5 million shows were achieved in VKONTAKTE, most popular Russian network, with 6 279 HPV-related posts published in social media. 50 publications appeared in RuNet too. 20 000 leaflets and flowers were distributed in various Russian Regional mols and

out-patient departments by volunteers. **Conclusion:** Reducing the incidence and cervical cancer-related mortality rates is crucial. In Russia we experience difficulties in reaching of the women invited for screening or vaccination. To cope with this situation national informational and educational campaign was developed. A part of this strategy was Russian Global action for celebration of International HPV Awareness Day. As a result of this campaign Russian regional programs for HPV screening and vaccination have been implemented.

OP2-911

BIONANOTECHNOLOGIES IN MEN'S HEALTH MEDICINE THE SPERM NANOBIOSOMES (MALE REPRODUCTION, CONTRACEPTION, STD AND AGEING)

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Synthetic Biology is a new Bio-Medical Field in which Convergence of BioInformatics, Genetic Engineering, Bio-Cellomics, Bio-Nanomics... is raising new strategic Technologies to sustain revolutionary approaches not only in the field of BioMedicine, but also a translational cascade effect on production of smart drugs from microorganisms, bioenergy production, bioremediation, biological threat detection and decontamination, programming cells for information processing, communication, gene regulation and cell therapies. These new futuristic potentialities of at-large scale applications raise complex problems of ethical knowledge management, implementation and transfer, involving not only the scientific communities but also the applied science policy-makers to drive the bioeconomy trends, the biosafety and biosecurity commitments for the environment, the protection of the human health as a primary asset of the global development. BioInformatics will play a new role, creating a parallel biodata synthetic knowledge for a responsible research for the benefit of humankind. The SynBionics or simply Synthetic Bionics Knowledge is progressively structuring as a new bio-science, based on the three pillars of Bio-Information, Bio-Innovation and Bio-Intelligence. SYNBIOTICS, including Nano(Bio)Somes, is a unique term designed and proposed by Giuseppe TRITTO from WABT in 2011 to indicate the global processes to Engineering Life through Synthetic Biology. The First Operational Model of SynBionics Process in Vivo has been developed by a dual India-Europe Team of BioEngineers and Clinicians in the Field of Human Reproduction. An innovative BioDesign for self-generation and self-assembly of nano-liposomes in vivo (Nano-BioSomes) into the human reproductive tract has been engineered by the group of prof. S. Guha in ITT Kharagpur and New Delhi, India, fitting the new bioconcepts and biodesigns in SynBionics proposed by the group of BioMiNT of prof. G. Tritto of WABT European Institute for Life (WEIL) in Europe. This new bio-nano-technological model in vitro and in vivo (BioNanoSpermGenSomes) opens highlights on advanced applications not only into reversible contraceptive methods for man, but also, beyond contraception, in local treatments of pathologies of the prostate, using nanoliposomes generated in vivo from sperm as carriers for drug delivery into the prostate, and as antimicrobial (including anti HIV) release from RISUG (and RISUGadv variant) contraceptive for male and female.

OP2-912

IMPACT OF REVISED MANAGEMENT POLICIES ON THE EFFICIENCY OF GYNECOLOGIC OPERATING ROOM PROCESSES IN A TERTIARY TRAINING HOSPITAL

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Background: A retrospective observational time motion study of elective gynecologic surgeries performed from January 2015 to December 2016 was conducted at the Operating Room Complex of a tertiary training hospital. There was a change from three operating suites with standard last stitch time in 2015 to only two



with no cutoff times in 2016. This was due to the renovation of the Operating Room Complex. **Objective:** To determine the factors and problems affecting operating room processes **Materials and methods:** Different time motion parameters such as induction time, length of induction, cutting time, last stitch time, total operation time, turnover time, and number of cases performed were collected from the nurses' documentation records. Average values from two different time periods were compared and analyzed. **Results:** Results showed no improvement with the revised policies implemented in 2016. With only two rooms, surgeons were able to cope with the number of patients by extending operating hours later through the day. Recurring problems on manpower and lack of resources were noted. **Conclusion:** There is a need to identify hindrance to efficient operating room utilization with the goal to decrease patient queue, improve patient as well as staff satisfaction, and increase hospital revenue. Multi-disciplinary changes in practices, processes, and attitudes are timely for improvements in operating room utilization and consequently better patient-centric outcomes.

OP2-913

MATRIX REGENERATION OF THE HUMAN TESTIS IN MALE INFERTILITY TESTIS REGENERATIVE MATRIX (TREM) BIOEXPANSION IN TESTIS INSUFFICIENCY SYNDROME (TIS) TESTIS EXPANDABLE BIOSURGERY AND MICROSURGERY (TEBS AND TEMS) IN MALE INFERTILITY BASED ON AUTOLOGOUS REGENERATIVE STEM CELLS

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In the last COGI Congresses in Paris (Paris, France, November 17-20, 2011, A6), in Hainan (Hainan, China, December 8-11, 2011, A27), in Singapore (Singapore, July 19-22, 2012), in Wien (November 30-December 2, 2017) innovative TREMS Technologies (TREMS – Technology for REproductive Medicine and Surgery) have been presented for MARS (MAle Reproductive Surgery and MicroSurgery). Testis Expandable BioSurgery and MicroSurgery (TEBS and TEMS) based on Cell Technology (Reproductive Cellomics) and on natural autologous Nanosomes (SpermoSomes) are designed for Testis Insufficiency Syndrome (TIS) in Male Infertility and in Andropause.

The Testis Insufficiency (Impairment) Syndrome – TIS is defined on 3T Parameters: Temperature Increasing, measured by IR Technology; Testosterone Decreasing, measured with salivary test; Testis Function Impairing, measured by computer-assisted Dynamic Imaging Technology (Power Doppler Ultrasound and Raman Spectroscopy). A flagship multi-centric clinical trial is realized on 85 cases of TIS Syndrome to implement a new procedure for Testis Matrix Regeneration using Autologous Mesenchymal Stem Cells with a follow-up of 1 year and half. The TREM Expansion in TIS has been realized with the technique TAS (Testis Augmentation Surgery) using a vascularized island vaginal flap to enlarge the testis with the goal to transform the testis ovoid from Dixon Euclidean eggs classes to Golden Egg standard. Through the albuginea incision a microprobe tunneling the interlobular spaces has been used to permit the injection of microplugs of samples of purified adipose regenerative stem cells extracted from the same fat tissue of the patient from the abdomen or from the scrotum. The samples of regenerative stem cells were activated before introduction into a special box delivering ultrasound cavitation multispectra low frequencies through a SHDB Cell System for 20 minutes. The volume of the testis and the blood level of testosterone are the basic parameters monitored during the period of follow-up. The volume of the testis increases of more than 20 per cent with a normalization of the ovoid into the Dixon categories and a real improvement of the power doppler parameters. The level of blood testosterone increases in a period of 6 months from a mean value of two measurements of 2.45 ± 0.47 to 4.50 ± 0.82 . The New Advanced Expandable MicroSurgery Techniques on the Human Testis (TEMS) to enhance or repair or regenerate the Intertubular Matrix of the Human Testis through Autologous Mesenchymal Stem Cells (Cell Therapy) represent the first

attempt to reverse the hypogonadic status of the male gonads. Clinically Evaluable Male Factor Restoration and Improvement and Social Economy Benefits are described comparing and addressing Human Reproduction and Family Welfare Policies in Western and Asian Countries.

OP2-914

MODIFYING THE CAESAREAN, SEVEN YEARS ON

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Problem statement : Caesarean carries the legacy of an Emperor. It is the procedure that more than any other complicated by bleeding and infection. Modifying the procedure in several areas came out of necessity to respond to new challenges that appear over last decades. Are we learning as fast as Midwifery changing, we should move to Modern Obstetrics, supporting ideas old and new ones, till we find those that work. **Methods :** Retraction tapes. Large intrabdominal packs. A stage stitch onto the middle of lower segment. . Use of suction to drain amniotic fluid. Opening lower segment high and cutting slightly upwards laterally. Fetal pillow to disengage head. Kiwi cup for high or low head. Natural birth simulation and delay in delivery through tight incisions. Invite parental couple to observe, delivery straight to mother, delay cord clamp. Repair of lower segment in one of four appropriate ways, one applies additional compression onto lower segment. Cleaning scar with normal saline and vaginal toilet with antiseptic. **Results:** The need for assistance was minimised. The procedure remained clean and dry. Bleeding was eliminated. The surgeon operated in a controlled and calmed environment. Natural birth simulation achieved and resulted in an excellent parental perception. The risk of post natal infection was eradicated. **Conclusion:** Caesarean still remains a ferocious procedure that can claim lives. The Modified version applied in 500 women who underwent elective and emergency procedures over last 7 years with excellent results. Should we do not recognize the challenges from a changing world, the furies could become the Nemesis of our practise. **Key words:** Modified Caesarean, post partum haemorrhage, Natural Birth Simulation, Revice Caesarean. **Disclosure:** No conflict of interest.

Professional Biography

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OP2-1001

DETERMINATION OF SERUM ENDOCAN LEVELS WHICH IS INFLAMMATORY MARKER IN PATIENTS WITH PREMATURE OVARY FAILURE

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Problem statement: The aim of this study is to establish endocan/ESM-1 (endothelial cell-specific molecule-1) which is a new inflammatory marker levels in idiopathic premature ovarian failure (POF) cases and reveal the relation between endocan and inflammatory process that is regarded as playing a role in etiology of this disease. **Methods:** This study was performed as a prospective case control study and approved by the Local Ethics Committee of the institution. The study group consisted of 34 women diagnosed with POF had a 46,XX karyotype and the control group consisted of 34 healthy women with normal fertility. Patients who had systemic and endocrine pathology and patients with BMI 30 were excluded from the study. Serum samples were taken from all participants and endocan levels were measured using ELISA method. **Results:** Patients with premature ovarian failure and healthy volunteers were matched for age, BMI, smoking rates to control group (p0.05). Serum endocan level was significantly higher in POF group than control group



($p=0.04$)(114.94pg/mL vs. 97.22 pg/mL). In study group endocan level was positively correlated with follicle stimulating hormone (FSH), and negatively correlated with anti-mullerian hormone (AMH) ($r=0.325$, $p=0.007$; $r=-0.393$, $p=0.022$, respectively). Receiver operating characteristic (ROC) analysis revealed that endocan was a significantly discriminative parameter for POF (area under the curve, 0.63 ; $p=0.04$). ROC analyze was used to find out the predictive endocan level and cut off value of endocan level was determined as 124.34 pg/ml. **Conclusions:** In most cases of premature ovarian failure the cause remains a mystery however the etiology of POF which is thought to be associated with ovarian inflammation and autoimmunity. As a result of our study, elevated serum endocan levels in the POF group support the presence of chronic inflammation and autoimmunity in etiology. We expect that serum endocan level is thought to be helpful in the diagnosis of POF and may be a guide for future studies. A larger number of studies are needed to understand how inflammatory processes play a role in the etiology of POF and to understand the mechanism of increased endocan levels.

OP2-1002

A RARE CASE OF OVARIAN METASTASIS OF ESTHESIONEUROBLASTOMA, A SINONASAL CAVITY MALIGNANCY: A CASE REPORT

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Problem/objective: To report a case of ovarian metastasis of esthesioneuroblastoma. **Methods:** Design. Case report. Setting. Tertiary training hospital. **Patient** A diagnosed case of esthesioneuroblastoma who presented with an acute abdomen three years after treatment of the primary tumor. **Intervention:** The patient underwent total abdominal hysterectomy with bilateral salpingo-oophorectomy and total staging operation for a pre-operative diagnosis of ovarian new growth, probably malignant. **Main Outcome Measures:** Diagnosis of the ovarian metastasis through high index of suspicion, thorough clinical assessment, imaging through ultrasound, proper surgical operation and histologic examination. **Results:** Histologic examination confirmed the diagnosis of metastatic esthesioneuroblastoma to the ovary. Postoperatively, the patient tolerated the procedure well with resolution of abdominal symptoms. Due to the distant spread of the primary tumor, the disease was very aggressive and eventually recurred in the primary site. The patient eventually succumbed to the complications of the disease. **Conclusion:** Due to the rarity, unusual spread and aggressive character of esthesioneuroblastoma, a high index of suspicion should be made in all patients diagnosed with this disease. As of writing, there has only been one similar case report of ovarian metastasis of esthesioneuroblastoma. This is the first case reported of metastatic esthesioneuroblastoma to the ovary in the Philippines.

OP2-1003

EPIDERMOID CLITORAL CYST: A RARE CAUSE OF CLITOROMEGALY

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Problem statement: Epidermoid cysts are slowly growing tumors that arise due to invagination of epidermis into dermis either spontaneously (rare) or following trauma caused by genital mutilation. While common locations are the face, scalp, neck and trunk, epidermoid cysts are rare on the clitoris, especially with no history of previous trauma. It is one of the rare causes of non-hormonal acquired clitoromegaly. Surgical removal of the cyst is the preferred treatment. Preserving the vasculature and nerve supply is of utmost importance in preserving sexual health. **Methods:** We performed a retrospective clinical case review. **Results:** 22-year-old healthy and sexually active woman was referred to our hospital with a 3-year history of painless and

gradual clitoral enlargement. No trauma history. The physical examination showed a mobile, soft, non-fluctuant mass with 3cm arising from the superior aspect of the clitoral region and covered by the clitoral hood. The remainder of the external genitalia and surrounding structures were normal. There were no virilizing signs and a complete hormonal evaluation showed no endocrinopathy. Soft tissue ultrasound showed a hyper echoic homogenous lesion with 36x21mm suggestive of lipoma. Surgical intervention was undertaken and complete excision of cyst was achieved with preservation of the neurovascular bundle. There were no postoperative complications or scarring. Patient was discharged 6-hours after surgery. Histopathologic examination reported a 20 mm epidermoid cyst. At 2 months follow-up, the physical exam showed no residual cyst and intact clitoral anatomy. Sexual sensation was preserved. **Conclusion:** When clitoral hypertrophy is encountered, endocrinological causes should be ruled out in the first step. Subsequent malignant or benign clitoral lesions should be considered, such as epidermoid clitoral cysts. The major surgical goals include preservation of sensory function for future sexual health and restoration of normal anatomy. This can be achieved by preservation of the neurovascular bundles during dissection. Preoperative magnetic resonance imaging evaluation can help the surgeon conceptualize the anatomy and prevent neurovascular damage. *No conflict of interest to declare.*



OP2-1004

SURGICAL OR MEDICAL TREATMENT FOR ECTOPIC PREGNANCY IN UNUSUAL LOCATIONS? THAT IS THE QUESTION

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Problem statement: The most common cause of Maternal Mortality and Morbidity in early weeks and months of pregnancy is due to Ectopic Pregnancy (EP). The incidence of EP has increased to 2 percent in recent decades. **Methods:** Sophisticated diagnostic tools for detecting EP in early stage, such as ultrasound, laparoscopy, and sensitive beta HCG test are the main factors in increasing the incidence of EP. But close to half of these chemically diagnosed EPs will settle by themselves later. Other factors that should be counted as the causes for the increased incidence of EP are; PID, previous EP, pelvic or tubal surgeries, pelvic adhesions, IVF. **Results:** Tubal Ampulla is the most common location for EP (Tubal Pregnancy). Any other location for EP is called unusual locations, even if it is a section of the fallopian tube i.e., interstitial or the fimbriae section of the tube. Other unusual locations are: cervix, abdominal cavity (Abdominal Pregnancy), or other organs (such as ovaries). **Conclusions:** Because of rarities of EP in unusual locations, young gynaecologists who might have less experience in treating these types of EPs would benefit from the more experienced colleagues and pioneer experts regarding how to approach and treat EPs in unusual locations in emergency and non emergency cases. The author with close to 45-years experience in Obstetrics and Gynaecology working at big public and teaching hospitals in 3 different countries (developing & developed) had opportunity to treat hundreds of EPs in usual locations and few EPs in unusual locations as well as one term abdominal pregnancies, and to follow them up for a long period (in one case 10 years follow-up). The author has published and presented case reports of EPs in unusual locations at world congresses and AAGL journal. He will share his knowledge of this field with attendees at COGI 2019 in Paris.



OP2-1005

HYSTEROSCOPIC REPAIR OF CESAREAN SCAR DEFECT IN WOMEN WITH ABNORMAL UTERINE BLEEDING: A PROSPECTIVE STUDYNguyen Ha¹, Thuy Nguyen², Tri Nguyen², Huynh Do², Anh Nguyen²¹Department of Assisted Reproductive Technology and Andrology, Hanoi Obstetrics and Gynecology Hospital, Hanoi, Vietnam²Department of Surgical Gynecology, Hanoi Obstetrics and Gynecology Hospital, Hanoi, Vietnam

Introduction: A Cesarean scar defect, also called as an isthmocele, is one of the consequences of Cesarean section that may cause postmenstrual spotting and therefore, affects the quality of life. **Objectives:** To determine the safety and effectiveness of hysteroscopic repair of isthmocele to treat postmenstrual spotting. **Methods:** 34 patients with abnormal uterine bleeding who had an isthmocele with a residual myometrium of $\geq 3\text{mm}$ (measured during transvaginal ultrasound) were performed hysteroscopic repair of isthmocele using a step-wise approach: identification of relevant anatomy; resection of the cephalad edge of fibrosis; resection of the caudad edge of fibrosis; and ablation of the isthmocele base. Complications of surgery were observed and the symptoms of postmenstrual spotting were monitored for 6 months afterwards.

Results: No complications of surgery such as bleeding, uterine perforation, infection were noted. 19 (55.9%) patients had resolution of their symptoms. Among the remaining cases, 9 (26.5%) patients had an improvement of symptoms with decreasing duration of postmenstrual spotting from 8.1 ± 1.7 days to 4.3 ± 0.8 days ($P = 0.05$), whereas 6 (17.6%) patients did not obtain any relief. **Conclusions:** Our data supports that hysteroscopic isthmoplasty is safe and effective in treating isthmocele-related abnormal uterine bleeding.

OP2-1006

RUSSIAN FIRST HPV PRIMARY SCREENING PROGRAM IN THE REPUBLIC OF BASHKORTOSTAN IN ACTIONIlya Oikov¹, Ildar Minniakhmetov², Rita Husainova², Marina Melnikova²¹Health Care Department, Social Programs Development Foundation, Moscow, Russia²Medical Genetics, Laboratory, Obstetrics and Gynecology Departments, Republican Medical Genetic Centre, Ufa, Russia

Problem statement: In the Republic of Bashkortostan more than 373 women a year develop cervical cancer and about 46% of this women die. Russian First HPV Primary Screening Program was initiated in April 2019 according to latest WHO, IARC and Russian Ministry of Health recommendations. 30.000 women of 30-39 years old were enrolled into screening program to be done within one year. This age group was chosen due to highest mortality rate. Samples were collected for HPV and cytology at the same time. High Risk HPV (hrHPV) positive women were triaged by cytology for further referral to colposcopy. **Methods:** HPV testing was performed using Hybrid Capture 2 technique (QIAGEN GmbH). Triage was performed using conventional cytology. PAP results classified as ASC-US or more severe were considered abnormal. Of the women referred for colposcopy, colposcopy-directed biopsies of the cervix' suspicious parts were taken for histological examination. Histology was examined locally and classified as normal, CIN grade 1, 2, 3, or invasive cancer. **Results:** 30.000 women of 30-39 years old were enrolled into screening program and 6.100 were tested. Women were invited to 14 local Centres of Female's Health. 90,7% of the women tested had an adequate hrHPV test ($n=5,533$) while 9,3% ($n= 567$) were hrHPV-positive. HrHPV-negative women were excluded from for the next 5 years interval. HrHPV-positive women were triaged by conventional cytology. HrHPV-positive but cytologically negative women were recommended to return for a follow-up in 12 months. HrHPV and PAP smear positive women were referred for colposcopy. **Conclusion:** HrHPV-testing was more sensitive for the detection of cervical precancer and cancer than cytology which should reduce the incidence and cervical cancer-related mortality. Centres of Female's Health experienced difficulties in reaching

of the women invited for screening. To cope with this situation regional informational and educational campaign was developed. 50 volunteers distributed 20 000 leaflets saying that each women of 30-39 might undergo free screening at her local Centre of Female's Health with appeal "Give love, not HPV" explaining basics about HPV and its consequences. Two regional TV channels and more than 50 bloggers supported campaign. 120 regional gynaecologists were additionally trained.

OP2-1007

GLIA CELLS NUMBER AND BDNF EXPRESSION IN ENDOMETRIOSIS MICE WITH AND WITHOUT LIPOPOLYSACCHARIDE (LPS) EXPOSUREDaniel Yoseph Pardoman¹, Ashon Sa'adi¹, Widjiati Widjiati²¹Obstetry and Gynecology, Soetomo General Hospital, Surabaya (Kota), Indonesia²Veterinary, Airlangga University, Surabaya (Kota), Indonesia

Problem statement: Endometriosis is chronic gynecological inflammatory disease in reproductive age characterized by the presence of endometrial cell fragments outside the uterine. In Indonesia, general prevalence ranges 3-10%. Found new hypothesis that intestinal microbiota contribute to the onset and progression of endometriosis. It also affects the brain. Parameters to assess the development and regeneration of brain cells : glia cells and Brain Derived Neurotrophic Factor (BDNF).

Objective: analyze the glia number and BDNF expression in mice brain that experienced endometriosis with or without LPS.

Methods: Experimental analysis with randomized post-test only control group at Airlangga University in February 2018-January 2019 using Mus musculus divided into 4 groups with total sample 32 (K1: placebo; K2: endometriosis; K3: LPS; K4: endometriosis+ LPS). Immunohistochemical examination to determine BDNF expression and HE staining to count glia cells.

Results: Glia cells was significantly higher on K2 ($7.0 + 2.26$), K3 ($6.63 + 1.68$), and K4 ($9.0 + 1.6$) compared to K1 ($3.63 + 1.18$), K2 higher than K3, K4 higher than K2 and K3, while BDNF expression significantly higher on K2 ($9.38 + 2.33$), K3 ($8.13 + 2.1$), and K4 ($11.25 + 2.12$) compared to K1 ($5.5 + 2.27$), K2 higher than K3, K4 higher than K2 while K4 higher than K3.

Conclusion: Glia cells number and BDNF expression in endometriosis models, LPS exposure, and endometriosis models given higher exposure to LPS than placebo. Glia cells and BDNF expression in the endometriosis given LPS was higher than endometriosis and LPS only. **Keywords:** Endometriosis, Glia Cells, BDNF, Lipopolysaccharide (LPS)

OP2-1008

SURGICAL OR NON-SURGICAL TREATMENT OF UTERINE FIBROIDS? THAT'S THE QUESTION

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Problem statement: Uterine Artery Embolization (UAE) has been used primarily in the treatment of postpartum hemorrhage since the 1980s. In 1995 Jacques Henri Revina et al from France published their first results with a new application of UAE for treatment of symptomatic myoma. Their results were promising. Five years later in year 2000 they reported 12-cases of pregnancy after UAE of uterine myoma which was published in Fertility Sterility 2000, 73:1241-3. They claimed the results were promising. They believed it could be a major breakthrough in the management of myoma and could replace conventional medical and surgical treatments. **Methods:** Since these publications the application of UAE has increased not only in France but in medical centers all over the world where there are international radiologists and have facilities to perform this technique. **Results:** Nowadays international radiologists are using MRgFUS which uses Resonance Guided Focused Ultrasound as well as a minimally invasive non-surgical treatment for management of uterine myomas avoiding surgery and conserving the uterus to preserve patients' future fertility. **Conclusion:** Controversies exist between gynecologists and interventional radiologists. Gynecologists who are expert in advanced laparoscopy surgery believe the gold standard treatment of uterine fibroids is laparoscopy myomectomy which



is a minimally invasive surgery. There are advantages and disadvantages in each mode of treatment. This will be the subject of discussion at the presentation of this paper at the 2019 COGI Congress Paris.

OP2-1009

INFERTILE PCOS PATIENTS TREATMENT WITH OPTIMAL RESULTS AND DECREASE THE RATE OF OHSS

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Problem statement: Polycystic ovary syndrome (PCOS) is one of the most common endocrinopathies affecting women in the reproductive age group, and is one of the most common causes of ovarian hyperstimulation syndrome (OHSS) in infertile patients. The aim of this study was decreased OHSS due to induction of ovulation with clomiphene citrate and then letrozole in comparison of letrozole and cabergolin and an optimal pregnancy rate. **Material and methods:** This is prospective clinical research from Dr. Rasekh infertility clinic, jahrom city, Iran. 64 infertile polycystic ovarian syndrome women were selected with 47 months infertility. The average age of them is 27.3 years (STD=5). The patients were divided into two groups: Group A; 36 patients (40%); initially tablet clomiphene citrate (from day 3 of menstrual cycle), then the second drug Letrozole was started from day 8 to 11 menstrual cycle. Group B; 28 patients (31.1%); initially tablet Letrozole (from day 3 of menstrual cycle), then the second drug cabergolin started from day 8 to 11 menstrual cycle. Pregnancy rate in group A, 8 (22%) and in group B; 6 (21%). The patients were monitored for ovulation by transvaginal ultrasonographic folliculometry, with measurement of number and size of the follicles, as well as endometrial thickness. Human chorionic gonadotrophin (HCG) was injected intramuscularly when at least one mature follicle 18-22 mm diameter. Data was analyzed with SPSS version 21. **Results:** The rate of OHSS was similar in both groups nearly zero (p<0.05). This means that both methods of treatment can be prevented the creation of OHSS. Pregnancy rate in both groups was almost the same (p<0.05). **Conclusion:** We recommend for the prevention of OHSS that is a serious complication of PCOS infertile women treatment which one of the two mentioned methods is to be used. Whilst in both methods has been favorite fertility rate. The goal of treatment is minimal side effects with optimal result. **Key words:** OHSS, PCOS, clomiphene, letrozole, cabergolin

OP2-1010

DETERMINING THE RELATIONSHIP BETWEEN MARRIED WOMEN'S ATTITUDES TOWARDS FERTILITY AND FAMILY PLANNING AND THEIR INTENTION TO USE CONTRACEPTIVE METHODS AND AFFECTING FACTORS

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Problem statement: The aim of this study is to determine the attitudes of married women towards fertility and family planning, their intention to use contraceptive methods, the affecting factors and the relationship between them. **Methods:** This descriptive and cross-sectional study was conducted between April 10, 2018 and July 22, 2019, in Family Health Centers located in the central districts of Ipekyolu, Tusba and Edremit of Van Provincial Health Directorate. The sample size of the study was calculated according to the sampling formula used in cases where the number of people in the universe is known and it was understood that 598 people should be reached. In determining the sample; stratified sampling method was used for the number of people to be taken from family health centers. 610 women who applied to the relevant Family Health Centers between March 1 and April 30, 2019 and met the criteria for inclusion, were included in the

study by simple random sampling method. In the data collection, "Personal Information Form", "Women's Fertility Attitude Scale", "Family Planning Attitude Scale" and "Contraceptive Intention Scale" were used. **Results:** There was a statistically significant negative correlation between the total score means of the Women's Fertility Attitude Scale and the Family Planning Attitude Scale and Contraceptive Intent Scale (0.2r0.4, p<0.01). On the other hand, it was determined that there was a weakly statistically significant positive correlation between the total score means of the Family Planning Attitude Scale and Contraceptive Intent Scale (0.2r0.4, p<0.01). According to some demographic and obstetric characteristics of women, the difference between the total score means of Fertility Attitude Scale, Family Planning Attitude Scale and Contraceptive Intention Scale were found to be statistically significant (p<0.05). **Conclusion:** As the positive attitudes of women towards fertility increased, their positive attitudes towards family planning decreased and their intention to use contraceptive methods decreased. As positive attitudes towards family planning increased, their intention to use contraceptive methods increased. Some demographic and obstetric characteristics of women affected their attitude towards fertility and family planning and their intention to use contraceptive methods.

OP2-1011

POSTPARTUM SEXUAL DYSFUNCTION - A PROSPECTIVE STUDY

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Problem statement: Childbirth brings important changes to the general and sexual health of women. Some studies identified operative vaginal delivery (OVD) and perineal tears as risk factors for postpartum sexual dysfunction (SD). The aim of this study was to evaluate women's postpartum sexual function and factors associated with SD. **Methods:** Observational prospective cohort study (MOODS: Maternal-neonatal Outcomes in Operative Vaginal Delivery Study) in Braga's Hospital, Portugal, since February to August 2018, including women who had a vaginal delivery (operative and spontaneous vaginal delivery in a relation 2:1). Women were invited to answer the Female Sexual Function Index (FSFI) questionnaire, at 3 months and 1 year postpartum. SD was defined by FSFI score < 26.55. Women who did not answer both questionnaires and did not resume sexual activity were excluded. **Results:** From 272 initially recruited women, 76 met the inclusion criteria. Mean age was 30.9±4.8 years and mostly were nulliparous (n=57.8%). The mode of delivery was spontaneous in 26 (34.7%) and OVD in 50 (65.3%) (Thierry's spatulas in 26 (52.0%); Kiwi vacuum in 24 (48.0%)). An episiotomy was performed in 64 (85.3%) of the deliveries and 26 (34.0%) had some degree of perineal tear (1 case of grade III laceration). About 19% (n=14) of women had complications (dehiscence/infection) of the perineal sutures. Mean FSFI score at 3 months was 20.7±8.6 with 70% classified with SD and at 1 year follow-up the mean FSFI-score was 27.3±5.17 with 32 (42.7%) women with SD. At 3 months SD was significantly more frequent in women with history of OVD (p<0.001), episiotomy (p=0.012) and perineal tears ≥ grade II (p=0.016). At 1 year postpartum these differences were no longer observed, as the other evaluated factors (parity, type of instrument, postpartum pain and complications). **Conclusions:** SD affects a great proportion of women after delivery and in early postpartum months the mode of delivery and perineal tears seem to play an important role. Although there was a reduction in frequency, prevalence of SD was still considerable (42%) at 1 year postpartum. Nonetheless, no delivery factors evaluated seemed to influence this condition.



POSTER ABSTRACTS

ART/IVF

P001

HETEROTOPIC PREGNANCY AFTER INTRA-CYTOPLASMATIC SPERM INJECTION: WHEN IDENTIFYING AN INTRAUTERINE PREGNANCY IS NOT ENOUGH

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Problem statement: Heterotopic pregnancy is a rare condition, consisting on simultaneous pregnancies in two implantation sites, mainly one intrauterine and one ectopic site. It is a potentially dangerous condition occurring in only 1 in 30,000 spontaneous pregnancies. Although rare in healthy general population, its incidence increases in women undergoing fertility treatments and those with risk factors for ectopic pregnancy. Therefore, with the introduction of Assisted Reproduction Techniques (ART), its overall incidence has risen. It is a difficult diagnosis to establish, as the identification of an intrauterine evolving pregnancy may tranquilize physicians and obviate further investigation, making diagnosis usually late and at an emergency setting. **Methods:** We present a case report and literature review. **Case Report:** A 28 year-old woman, undergoing ART for primary infertility (male factor), was submitted to ovulation induction and later intra-cytoplasmatic sperm injection and transference of two frozen embryos. She was admitted to the emergency department for pelvic pain, more intense at the right iliac fossa (RIF), with nausea. On physical examination, she demonstrated mucocutaneous pallor and pain at RIF compression, without peritoneal irritation signs. Serum levels of human chorionic gonadotrophin (hCG) were 13.000 mIU/mL. Transvaginal ultrasound revealed an intrauterine gestational sac with 15 mm and a vitellin vesicle, no embryo visible. Further sonographic evaluation demonstrated a right adnexial mass, with 13,4 mm and peripheral flow on collar Doppler, suggestive of right tubal ectopic pregnancy. Explorative laparoscopy further supported heterotopic pregnancy diagnosis, with hemoperitoneum and a right fallopian tube mass, compatible with tubal pregnancy. Laparoscopic salpingectomy was performed, and the material sent to anatomical pathology examination. To our knowledge, at the time being, the intrauterine pregnancy is evolving.



Conclusion: In light of the growing ART and consequent increase in heterotopic pregnancy risk, all physicians should be aware of this diagnosis. A high index of suspicion is needed, and confirming an intrauterine pregnancy should not be enough to exclude a co-existing pregnancy. Timely diagnosis is imperative in order to result in less maternal morbidity and better obstetric outcomes

P002

OVARIAN AND ENDOMETRIUM PLATELET-RICH PLASMA (PRP) THERAPY IN REPRODUCTIVE MEDICINE

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Platelet rich plasma (PRP) has been previously used with some success in various non-reproductive medical contexts because its relevant tissue regeneration processes. In this study we extended PRP application to reproductive medicine to overcome problem of patients with low (or absent) ovarian reserve and patients who cannot obtain adequate endometrial thickness for successful embryo transfer. In this study we evaluated the effectiveness of ovarian PRP injection, in order to rejuvenate and reactivate ovaries with the ultimate goal of indicating a possible correlation between this mode of treatment and reproductive effect in women with diminished ovarian reserve as determined by at least one prior IVF cycle canceled for poor follicular recruitment response. PRP application in endometrium has also been associated with increased progesterone receptor activity. Progesterone receptors are the main actors that help maintain a thick and healthy endometrial lining, which in turn, helps with embryo implantation. We have started offering ovarian and endometrium PRP applications for 122 patients between 32 and 47 years old with: IVF failures, poor oocyte yield and POF (Premature Ovarian Failure) and patients who cannot obtain an adequate endometrial thickness. Ovarian PRP is programmed in 8-10 day of menstrual cycle while endometrial PRP application is administered approximately 48-96 h before embryotransfer. PRP was prepared from autologous blood using RegenACR kit according to manufacturer's instructions and subsequently 1 cc of PRP was infused on ovaries using a thin needle under transvaginal ultrasound guidance and/or infused on the endometrium using Gynetics catheter. To verify action of this treatment we attach importance to presence of dominant follicle in 8-10 day of cycle; we also check the hormonal profile of FSH and E2 in 3rd day of menstrual cycle; after application of PRP, the endometrial thickness was satisfactory in all patients (8 mm), with endometrial three-layer pattern. The results of ovarian PRP are promising because 36% of these patients with previous IVF failures achieved pregnancy (41 women). In our experience, PRP treatments seems to have an important regenerative function. These results translates into several pregnancies, registered in all women with previous IVF failures who have never had a pregnancy before.

P003

ENDOMETRIAL THICKNESS AS A DETERMINANT OF FROZEN EMBRYO TRANSFER OUTCOMES

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Problem statement: Frozen embryo transfer (FET) is an increasingly popular method of assisted reproductive technology (ART) due to advances in cryopreservation and more favourable outcomes when compared to fresh embryo transfer (ET). Endometrial thickness (EMT) has previously been investigated as a determinant of pregnancy rates following ART, with many studies suggesting unfavourable outcomes below a threshold of 7 -8mm. However, there are limited studies investigating the role of EMT in FET cycles specifically. Hence, here we determine the relationship between EMT and outcomes following FET. **Methods:** Data was retrospectively analysed from FET cycles at a single-centre over a one-year period. Seventy-five patients matched the inclusion criteria. Patients underwent a mix of GnRH agonist, GnRH antagonist and natural cycle protocols. Embryos were frozen on day 5 of development and EMT was assessed prior to implantation by transvaginal ultrasound. The relationship between EMT was compared to subsequent pregnancy rates, defined by a positive beta-HCG test result. Statistical analysis was performed via

ANOVA, with results of $p < 0.05$ deemed to be significant. **Results:** The overall pregnancy rate following FET cycles was 47.3%. EMT ranged from 6.2 to 16mm, with an EMT mean of 9.4mm and median of 8.9mm. One-way ANOVA showed that EMT did not influence pregnancy outcomes ($p = 0.982$). Two-way ANOVA demonstrated that factors including age of the patient (range 23 – 45 years old), size of ovarian follicles prior to oocyte retrieval (range 10 – 21mm) or stimulation protocol used also did not influence pregnancy rates significantly ($p = 0.432$, $p = 0.472$, $p = 0.791$ respectively). Using both ≤ 7 or ≤ 8 mm as a 'suboptimal' EMT threshold (as commonly used in the literature), there were no differences in outcomes between groups ($p = 0.56$ and $p = 0.75$ respectively). **Conclusion:** EMT does not influence FET pregnancy outcomes. Other factors frequently considered in ART such as age of the patient, size of ovarian follicles and stimulation protocol used also do not influence the relationship between EMT and FET outcomes. Further, there does not appear to be a minimum EMT below which pregnancy outcomes are undesirable. Therefore, this study concludes that EMT is not a useful clinical indicator of FET outcomes.

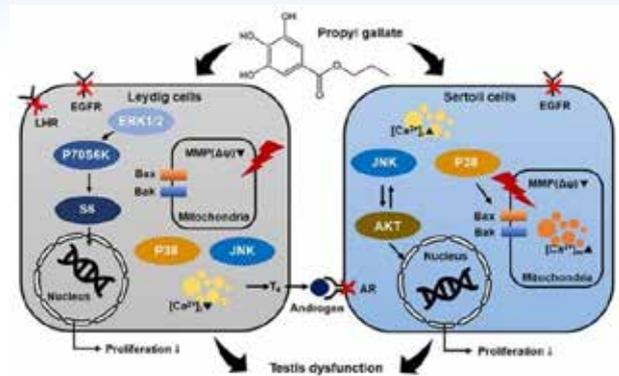
P004

EXPOSURE TO PROPYL GALLATE HAMPER CALCIUM HOEMOSTASIS AND INDUCED MITOCHONDRIA DYSFUNCTION OF TESTIS, LEADING TO MALE INFERTILITY
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Problem statement: Propyl gallate (propyl 3,4,5-trihydroxybenzoate, PG), as one of synthetic phenolic antioxidants (SPAs), has been used for oil-containing foods to prevent acidification. In addition, its usage is widely extended to hair product, cosmetics and even anti-cancer agents. However, there are still concerns about PG as a possible reproductive toxicant. In our previous study, we already confirmed the cytotoxic effect of PG on human trophoblast cells which could involve in abnormal pregnancy. Plus, the function of PG as an estrogen antagonist was reported. Still, studies of PG on male reproductive toxicity are rare. Therefore, we determined whether PG induced male infertility, especially focused on testis. **Methods:** We used mouse testis cell lines (Leydig cells and Sertoli cells) to conduct various experiments about proliferation, cell cycle, mitochondrial function and calcium homeostasis which are crucial for testis. Further, we performed western blot analysis focused on endoplasmic reticulum (ER) stress, MAPK and PI3K/Akt signaling cascades. After that, using both cell lines and mouse testis tissue which treated PG about 4 weeks, we verified changes of mRNA expression about testicular function-related genes. Further, those mRNA expressions were confirmed in mouse testis tissue via In situ hybridization. **Results:** Our results revealed that PG induced testicular dysfunction in both Leydig and Sertoli cells through suppression of cell viability and steroidogenesis. These normal testis functions were destroyed by PG-induced mitochondrial dysfunction and calcium homeostasis dysregulation. Plus, PG dysregulated the expression of several genes related to function of testis and induced ER stress. In addition, we confirmed PG-induced mRNA expression changes about steroidogenic enzymes and hormone receptors in both cell lines and tissues. Further, based on the results of the qPCR analysis, we further confirmed PG-induced suppression of the mRNA expression of genes about testis functions by in situ hybridization. **Conclusion:** We demonstrated that PG induced testicular toxicity via hampering of mitochondrial or ER function and suppression of testicular function-related genes in mice. Interest : synthetic phenolic antioxidants, steroidogenesis, male infertility, ER stress, calcium homeostasis



P005

FUNCTION OF LIN28A/WNT/B-CATENIN IN REGULATING PREMATURE OVARIAN FAILURE

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Problem statement: Infertility is a prevalence of disease that besets 15% of couples in childbearing age around the world. Premature ovarian failure (POF), defined as primary ovarian defecation and characterized as cessation of menstruation or absent function of ovarian follicles in women under the age of 40, accounts for approximately 1% of infertility disease in women at childbearing age. The study on the specific mechanism of how premature ovarian failure occurs remained further exploration. Lin28 which contains two isoforms lin28a and lin28b, is mRNA binding protein and highly expressed in embryogenesis. In this study, we aim to investigate the function of lin28a in regulating premature ovarian failure. **Methods:** ICR female mice and lin28a transgenic mice were used as mouse model. Immunohistochemical staining, western immunoblotting and qPCR were applied in this experiment. **Results:** The fertility rate of four-month old lin28a transgenic mice was significantly reduced compared with wild type. The superovulation result by pregnant mare's serum gonadotropin (PMSG) also showed that ovum secretion of lin28a transgenic mice was also markedly decreased. Besides, primordial follicular amounts were significantly declined, while secondary follicles were markedly increased in 4-month old lin28a transgenic mice compare with wild type. Akt/mTOR pathway was activated in lin28a transgenic mice. The expression of β -catenin, which is the downstream molecule of wnt signaling pathway, was significantly enhanced in the ovary of lin28a transgenic mice. Suppression wnt signaling pathway could inhibit Akt signaling activity. **Conclusions:** Overexpression of lin28a in oocyte can enhanced the activity of Akt/mTOR via upregulating wnt/ β -catenin pathway, which may play a role in regulating premature ovarian failure.

P006

THE ASSOCIATION BETWEEN PROGESTERONE LEVELS ON THE DAY OF OOCYTE MATURATION DAY AND SYSTEMIC INFLAMMATORY MARKERS OF COMPLETE BLOOD COUNT FOR FRESH IN VITRO FERTILIZATION CYCLES

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Problem statement: In recent studies, it has been found that increased progesterone level on oocyte maturation day affect the quality of embryo and the endometrial receptivity. In addition, systemic inflammatory markers (neutrophil to lymphocyte ratio (NLR), platelet to lymphocyte ratio (PLR)) are also thought to affect premature ovarian failure or endometriosis. We evaluate the association between systemic inflammatory markers and increased progesterone levels on the day of maturation and

compare the outcome in fresh IVF cycles. **Methods:** A total of 307 women were included in this retrospective study, undergoing IVF procedures. Serum progesterone level on the day of human chorionic gonadotropin (hCG) trigger and Complete blood counts (neutrophil to lymphocyte ratio (NLR), platelet to lymphocyte ratio (PLR)) were analyzed. **Results:** 21 Patients showed increased serum progesterone level(1.5 ng/ml) on the day of hCG. Neutrophil count, Lymphocyte count were significantly correlated with progesterone levels on the day of hCG (P = 0.009, P = 0.001). NLR, PLR were not significantly different between patients with increased serum progesterone level(P = 0.470, P = 0.823). **Conclusion:** Neutrophil, Lymphocyte may have impact on increased serum progesterone level, whereas NLR and PLR do not seem to be valuable markers associated with increased progesterone level. Disclosure of Interest: Authors have no conflict of interests.

P007

USE OF FOLLITROPIN DELTA IN CONTROLLED OVARIAN STIMULATION FOR IN VITRO FERTILIZATION IN HIGH RESPONDER PATIENTS: CASE-CONTROL STUDY

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Problem statement: We aim to explore the use of Follitropin Delta in controlled ovarian stimulation for In Vitro Fertilization (IVF) in high responder patients and compare it to Follitropin alfa, beta and biosimilar FSH preparations in terms of efficacy and security. **Methods:** Observational case-control study including first or second IVF cycles in high responder patients. For each Follitropin Delta patient included in the study, a matched control by age, weight, Antral Follicle Count (AFC) and Antimüllerian Hormone (AMH) level was also included. We retrospectively recorded all first or second high responder patients IVF cycles stimulated with Follitropin Delta from June of 2018 until March of 2019. High response criteria included: AMH ≥ 3.5 ng/ml, AFC ≥ 20 or high response on previous cycle. Basal characteristics included: age, weight, Body Mass Index (BMI), Follicle Stimulating Hormone (FSH), AMH, AFC, number of previous IVF cycles, indication for IVF and previous gestations. All cycle, efficacy and safety variables were recorded. SPSS 20 was used for statistical analysis. T test for independent means was used for numeric variables and Chi2 Test for qualitative variables. **Results:** No differences were found among basal characteristics between the two groups. No significant differences were found between the two groups in terms of stimulation length, number of follicles the day of hCG, total and MII oocytes or cleavage stage embryos. No differences were found in terms of percentage of patients who needed GnRH agonist trigger or could not go to fresh embryo transfer. Mean number of good quality embryos was similar in both groups. Among the 71 patients who had transfer either fresh or frozen, cumulative pregnancy rates were 52.11%. No difference were found between the two groups, 51.4% of pregnancies in Follitropin Delta and 48.9% in the rest of follitropins group (p=0.33). **Conclusion:** Follitropin delta is an efficacious and safe option for controlled ovarian stimulation for IVF in high responder patients. The results of the study must be taken with caution due to the small sample size. Larger prospective studies in this particular subgroup of patients are needed.

P008

EFFICACY OF ICSI IN OVERCOMING FERTILITY PROBLEMS IN MEN WITH AUTO IMMUNE REACTIVITY TO SPERM (ANTI SPERM ANTIBODY: ASA)

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Problem statement: The aim of this study was to evaluate the efficacy of the technique of Intra-Cytoplasmic Sperm Injection (ICSI) in the treatment of infertile couples due to presence of Anti-Sperm Antibodies (ASA) in seminal fluid. **Methods:** This study illustrates a retrospective analysis of clinical and laboratory data from a ten year-period ICSI cycles. The prevalence of ASA was assessed in 1500 males attending IVF clinics in Bahrain over a period of 10 years. Majority of patients in the study were of 30- 49 years age group with an average of 39 ± 9 . The initial detection of sperm autoantibodies was made by visual microscopic observation of clumped spermatozoa associated with motility restriction and by mixed agglutinin reaction (MAR-IgG) test. The titre of ASA was determined by more laborious Tray Agglutination Test (TAT) using Terazaki plate, donor normal sperm and patient serum. Couples with male partner showing Azospermia/ severe Oligospermia or having a female fertility problem were excluded in this study. All female partners were found to have a normal hormonal profile. **Results:** 720 patients were selected as per inclusion criteria to proceed for treatment with ICSI. The hormonal profile of all patients were compared on admission without any significant difference. Anti -Sperm Antibodies were suspected in 96 primary infertility patients showing Normozospermia (13.33%) and 24 secondary infertility patients showing Oligospermia due to reversed earlier vasectomy (3.33%). Confirmatory TAT results showed a minimum serum antibody titre at a dilution of 1/256 in primary infertility group and 1/ 512 in the secondary infertility group (p 0.001). In this study, ICSI outcomes in men exhibiting different levels ASA were similar to those of patients with normal semen parameters who had no sperm autoimmune reactivity. The differences in Fertilization rate, cleavage rate, D5 blastocyst formation, as well as clinical pregnancy and miscarriage rates were not significant among all study groups. **Conclusion:** Our data indicates that ICSI is efficient in overcoming fertility problems encountered in men with sperm auto- antibodies. Presence of ASA in semen does not affect the outcomes of ICSI. Key words: ASA, MAR, IVF, ICSI. Disclosure: No conflict of interest

P009

ENDOMETRIAL SCRATCHING AND ANALYSIS UTERINE NATURAL KILLER (UNK) IMPROVE PREGNANCY RATE IN INFERTILE WOMEN WITH PREVIOUS IVF FAILURE

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Endometrial immune reaction that occurs in women during the implant window is crucial for implantation. Under physiological conditions, uNK lymphocytes are not spontaneously cytotoxic. However, uNK cells are not the only ones in the endometrium: in a predominantly Th1 environment, dendritic cells and Treg cells can increase the uNK lymphocytes cytotoxicity and in turn they are able to recognize trophoblastic cells as non -self and reject them by inducing a missed implant and repeated abortions. When uNK lymphocytes are elevated, aggressive environment is produced in the endometrium causing implantation failure. An altered immune system can be closely linked to abortions or repeated failures of an embryonic implant so a balanced local immune biological reaction is necessary to allow the embryo adhesion phase. A total of 95 women with IVF failures was participated in this study . Endometrial tissue samples were obtained with a microcatheter Pipelle, performing endometrial scratching. Research of uNK lymphocytes was performed by histological examination. Immunohistochemical markers CD16 and CD56 reveal the possible presence of lymphocyte elements in the stroma of the endometrial mucosa. Instead, the morphological and immunohistochemical marker CD138 reveals the possible presence of plasma cells that can be evidence of endometritis. Endometrial biopsies were collected in proliferative phase. They were considered positive cases presence of a number of cells of CD 10 cells. CD16 and CD56 cell



abundance in proliferative endometrial tissue of women with reproductive failure has suggested they may play a role in this pathogenesis. Common treatment for women with abnormal endometrial NK cells numbers is use of corticosteroids and in addition in our lab we use biophotonic therapy: through a special device connected to computer, woman received spermatid biophotonic emission of her male partner, previously stored. The administration of spermatid biophotonic energy was carried out a few minutes before the embryo transfer and on culture medium in which there are incubated embryos obtained through ICSI et/or PICSI. Pregnancy rate was significantly higher (28%) in the same group of patients with several previous IVF failures (control group). Performing this combined treatment with endometrial scratching in patients with diagnosis of infertility increased pregnancy rates.

P010
AROMATASE INHIBITORS (LETROZOLE) VERSUS CLOMIPHENE CITRATE AS OVULATION INDUCTION AGENTS IN PATIENTS WITH POLYCYSTIC OVARIAN SYNDROME, AND THEIR ROLE ON ULTRASONOGRAPHIC MARKERS OF ENDOMETRIAL RECEPTIVITY
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Problem statement: Polycystic ovary syndrome (PCOS) is associated with anovulatory infertility, recurrent miscarriages and poor implantation rates. Letrozole has now been suggested to be used first-line as pharmacological management of anovulatory infertility in PCOS women by the ESHRE guideline released in 2018. Uterine perfusion plays a role in endometrial receptivity and hence embryonic implantation. PCOS is linked with abnormal uterine blood flow. Measurement of endometrial vascularisation around the endometrial layer via Doppler ultrasonography has been found to be adequate for assessment of endometrial receptivity. Compared to Letrozole, the anti-oestrogen effects of CC on the endometrium have a negative impact on endometrial function which may explain the improved pregnancy outcomes with the use of Letrozole. Studies comparing the role of these drugs on endometrial thickness and reproductive outcomes, and endometrial vascularisation via Doppler studies have been analysed and compared in this literature review. **Methods:** A literature search identifying articles published over the past 10 years, which compared ultrasonographic features of endometrial receptivity including doppler changes following the use of CC versus Letrozole in PCOS women, revealed four studies with a total of 510 patients. The studies where all randomised controlled trials and used timed intercourse as the method of fertilisation.

					Study
Al-Obaidi (2019)	Iraq	5mgLE / 100mg CC	Timed intercourse	80	Randomised non-blinded control trial
Baruah (2009)	India	2.5-5mg LE/ 50-100mg CC	Timed intercourse	50	Prospective non-blinded randomised controlled trial
Selim (2012)	Egypt	5mg LE / 100mg CC	Timed intercourse	220	Prospective randomised trial
Wang (2019)	China	2.5mg LE/ 50mg CC	Timed intercourse	160	Randomised controlled trial
Total number of patients	510				

Results: There is an overall positive effect on endometrial thickness and sub-endometrial vascularity and improved pregnancy rates with the use of Letrozole compared to CC. All studies show statistically improved doppler indices and endometrial thickness with the use of Letrozole compared to CC, and an overall increased pregnancy rate. **Conclusion:** The use of Letrozole improves sonographic features of endometrial receptivity when compared to CC in anovulatory PCOS women, and improves pregnancy rates.



P011

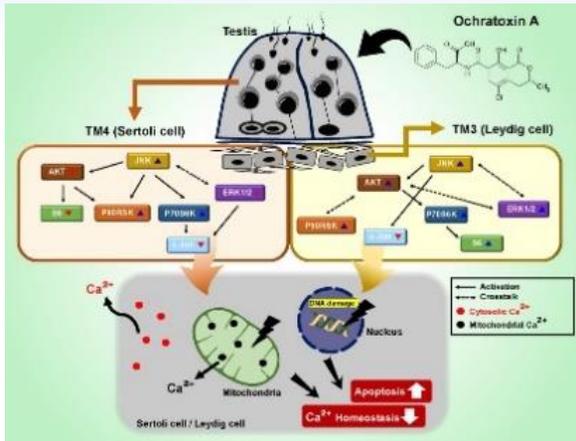
TOXIC EFFECTS OF OCHRATOXIN A ON SERTOLI AND LEYDIG CELLS CAUSING MALE INFERTILITY IN MICE
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Problem statement: Environmental factors from agriculture and industrial society cause severe male infertility in recent days. Kind of mycotoxin, ochratoxin A (OTA) is a secondary metabolite produced by *Penicillium* and *Aspergillus* which lead contamination on foodstuffs. It's toxic effects in various tissues showed respect to pathogenesis of diseases or malformation in main organs. In case of female, OTA plays an important role in placental cells that caused abnormal fetal development, the decreased sperm counts or motility by OTA indicated spermatotoxicity in male. However, intracellular physiological mechanisms in testicular cells were still not elucidated. Therefore, to give evidence of detailed mechanisms of OTA, we investigated cytotoxic effects of OTA which can cause male infertility using two types of testicular cells in mice, Sertoli cells (TM4) and Leydig cells (TM3) in this study. **Methods:** OTA incubated with those cells for 24-h and various experiments including proliferation assay, cell cycle assay and cytosolic calcium analysis were performed to identify the reproductive toxicity of OTA. Phosphorylation of diverse signaling molecules related to cell survival and growth were analyzed using western blotting. **Results:** The results showed significant decrease in proliferation of TM3 and TM4 cells, those cells were arrested in sub-G1 phase of cell cycle by OTA. OTA treatment showed imbalanced calcium ion concentration between the cytosol and mitochondria. Also, expression pattern of main regulators in PI3K (AKT, P70S6K, and S6) and MAPK (ERK1/2 and JNK) pathways significantly altered in response to dose-dependent OTA exposure. And we used inhibitors of each pathways to identify complex correlation between signal proteins. They exerted synergistic effects of OTA on growth inhibition in TM3 and TM4 cells. **Conclusion:** Taken together, OTA exposure inhibited proliferation on TM3 and TM4 cells, following results about disruption of calcium ion homeostasis, early stage apoptosis and changes in cell proliferating signal molecules supported cytotoxic effects of OTA. Therefore, OTA contaminated products can lead to male infertility through incomplete sperm maturation with damaged testicular cells. Disclosure of interest: ochratoxin A, sertoli cells, leydig cells, male infertility





P012

HORMONAL TREATMENT PRIOR TO TESTICULAR SPERM EXTRACTION (TESE) IMPROVES ICSI OUTCOMES

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Problem statement: To analyze embryological and obstetric outcomes obtained with the use of testicular sperm in patients receiving or not hormonal treatment prior to extraction. **Methods:** Retrospective cohort study between January 2007 to December 2017. All male patients attending the IECH fertility center in Monterrey requiring TESE for ICSI were enrolled. Group 1 were patients with severe OAT and NOA who received recombinant follicle stimulating hormone (rFSH) 25 IU three times a week, or recombinant human chorionic gonadotropin (hCG) 250 mcg once a week for at least 6 weeks prior to TESE; and Group 2 were patients with obstructive azoospermia not receiving treatment. **Results:** A total of 211 cases were analyzed; Group 1 (n=118) had mean age of 38.2±6.9, while group 2 (n=93) had a mean age of 40.5±7.4 years. Women average age was 33.8±5.1 (Group 1) versus 34.2±4.8 years (Group 2). Mean FSH values for group 1 was 8.6±6.7 mIU/dL vs 3.3±2.5 for group 2. In group 1, 65% were patients with severe OAT and 35% with NOA. In total, 65% of the patients received rFSH and 35% received hCG. Testicular sperm was successfully retrieved in all cases including patients diagnosed with NOA. Fertilization rates were 48% vs 51% between groups. Cleavage rate for group 1 was 94% vs 85% for group 2; blastocyst yield was 74% for group 1 vs 65% for group 2. None of these parameters were significantly different. Pregnancy rate was 35/118 (30%) for group 1 and 34/93 (36%) for group 2. Clinical and ongoing pregnancy rates were 48% for group 1 and 79% for group 2. Live Birth rate was 48% group 1 versus 52% for group 2. Implantation rate was 18% for group 1 and 33% for group 2. **Conclusion:** Hormonal treatment of men with NOA and severe OAT prior to TESE equalize the reproductive performance when compared to OA. Future studies should compare men with NOA treated with hormones versus non-treated to show whether our findings of retrieving sperm in all cases of NOA is secondary to the pharmacological treatment. No relationships to disclose.

P013

CONCEPTION FACTORS IN UNEXPLAINED INFERTILITY PATIENTS

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Problem statement: Unexplained infertility nowadays persists highly prevalent despite the all the precise diagnostics and evaluations of the couples. In all these cases, the question remains – which factors are decisive for conception? **Methods:** A total of 129 couples diagnosed with unexplained infertility and received assisted reproductive technology (ART) during the period of 1 year (2018) were retrospectively studied at Vilnius University Santaros Clinics. Age, duration of infertility, type of infertility, body mass index, baselines of sex hormones, anti-Müllerian hormone (AMH) prior the treatment has been recorded, including the age and sperm analysis data of men. **Results:** Of the 129 couples, 19 (14.7%) underwent intracytoplasmic sperm injection (ICSI). The total pregnancy rate was 55.8%. There were no statistically significant differences between the women who conceived after ART in terms of age, comorbidities (hypotirostis, depression, etc.), body mass index. The baseline characteristics of the FSH, LH, estradiol and prolactin were similar in failed to conceive group (A group) and women who became pregnant (B group) although the duration of infertility was significantly shorter B group (5.3 yr. vs. 4.1 yr.; p=0,012). Comparing AMH levels, there were no significant difference between A and B groups (p=0,541) which suggests that lower AMH levels are not related to reduced infertility. Endometrium thickness at transfer day was 2,1 mm higher in B group (p=0,033). We did not find higher predicted probability of conceiving when comparing both groups in couples where men had higher sperm concentration (p=0,838), nor sperm motility (p=0,150). **Conclusion:** Altogether, unexplained infertility conception rate is high. The duration of infertility plays an important role in predicting conception before starting ART in unexplained infertility patients. Endometrium thickness remains a strong predictor of implantation and conceiving a clinical pregnancy. Further studies are necessary to reveal the prognosis criteria for conception in unexplained infertility couples. Conflict of Interest: None. Disclosure of Funding: None.

P014

MEDIATOR IN THE EMBRYO-ENDOMETRIUM CROSS-TALK: GRANULOCYTE COLONY-STIMULATING FACTOR IN INFERTILITY

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Problem statement: Successful implantation requires a receptive endometrium and a good quality egg. The challenges a physician encounters with regard to this in assisted reproductive technology are obtaining good quality embryo, achieving optimal endometrial thickness (EMT), and subsequently implantation, which is denotive of a receptive endometrium. Granulocyte colony-stimulating factor (G-CSF) has been observed to be a biomarker of oocyte quality and has been shown to enhance EMT and implantation because of its immunological effects. **Methods:** A systematic search for all relevant articles on G-CSF in follicular fluid and its therapeutic benefit in thin endometrium and recurrent implantation failure was performed, and peer-reviewed, full-text articles related to humans were included in the study. **Results:** As a tool to determine the potentiality of oocyte, G-CSF shows promise with its predictability increasing in combination with morphological embryo scoring or interleukin 15. For the thin endometrium, G-CSF is especially useful in patients who are refractory to other treatment modalities. In recurrent implantation failure (RIF), G-CSF showed potential in a subset of patients with immunological deficiency lacking killer cell immunoglobulin-like receptor genes. This review highlights the various forms of usage of G-CSF and the effectiveness of G-CSF in infertility. **Conclusion:** G-CSF equips embryologists with a tool to determine the potentiality of oocyte and physicians with therapy for thin endometrium and RIF, especially since the available treatment options are ineffective.

P015

OVARIAN STIMULATION IN LOW RESPONDERS CLASSIFIED AS GROUP I AND II ACCORDING TO THE POSEIDON SYSTEM

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Objective: To compare the ovarian response between the use of a combined protocols of FSH / LH versus FSH monotherapy protocol in the subgroups I and II of low-responders using the POSEIDON classification criteria. Design: Retrospective, cross-sectional, inferential analytical study. **Material and methods:** Data from 101 stimulation cycles of low-responders classified as group I or II using the POSEIDON criteria, who participated in IVF/ICSI procedures between August 2014 and December 2018 were analyzed. Ovarian stimulation was performed with rhFSH monotherapy or rFSHr / rLH combination therapy at doses between 75 to 450UI. GnRH analogues were used for suppression and triggering was with hCG upon detection of the first 18mm follicle. Oocyte retrieval was performed transvaginally 35-36 hrs after hCG administration. The oocytes were inseminated by conventional IVF or ICSI, the fertilization was evaluated 17-19 hrs later and the embryo quality and development was evaluated on day 3 and/or day 5. **Results:** A total of 46 (45.54%) patients formed group I and 55 (54.46%) were in Group II. Patient's age was significantly different lower in the POSEIDON GI (31.04 ±3.48, VS 37.45 ±2.22 P=0.01). Furthermore, group I, had lower total doses requirement for ovarian stimulation (2290.49 ±830.23, VS 2704.55 ±785.92, P=0.01). The number of recovered and mature oocytes in group 1 POSEIDON was higher compared to the other group (7.07 ± 1.9, VS 6.45 ±1.8 0.001). A greater amount of fertilized oocytes was found in group 2 ([199/310(64.2%) VS 159/273(58.2%) P=0.003]), and a higher rate of blastocysts (34.1% VS 32.1%, P0.001). A greater number of embryos were obtained in patients of group 1(monotherapy) (2 ± 0.58, P=0.047). The live birth rate was not higher in the comparative groups ([14 / 45 (31.1%) VS 19 / 55(34.5%) P=0.2138]). **Conclusions:** Monotherapy with FSH was associated with greater quantity of recovered oocytes for both patients ≥35 years with adequate parameters of ovarian reserve and 35 years with deficient parameters of ovarian reserve. The addition of LH to the FSH stimulation protocols for poor responders was inefficient in improving outcome.

P016

DISTINGUISHING BETWEEN CORNUAL AND ECCENTRICALLY LOCATED INTRAUTERINE PREGNANCY AFTER INTRAUTERINE INSEMINATION - A CASE REPORT STUDY

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Problem statement: Ectopic pregnancies occur in 1–2% of all pregnancies. Cornual pregnancy is a rare and dangerous type of ectopic gestation that poses a diagnostic and therapeutic challenge: Eccentrically located, intrauterine gestational sac can be misinterpreted as cornual pregnancy on ultrasound evaluation. To distinguish between these two, sonographic criteria can be applied: empty uterine cavity, sac 1 cm from the most lateral edge of the uterine cavity and a thin myometrial layer surrounding the sac. The more frequent use of assisted reproductive technologies, including ovulation induction, intrauterine insemination (IUI), in vitro fertilization (IVF), and intracytoplasmic sperm injection (ICSI), leads to a rise in ectopic pregnancy. **Methods:** We describe the clinical presentation, management, and outcome of a patient with eccentrically located intrauterine pregnancy that was presented to us

with the suspicion of cornual pregnancy. **Results:** A 36-year-old, nullipara, presented with mild abdominal pain and spotting since three days, 4 weeks after IUI. Referred to the emergency for ultrasound suspicion of cornual pregnancy. General physical examination was normal. Pelvic examination revealed bulky uterus without any adnexal pathology. Clinical features were suggestive of either ectopic pregnancy or threatened abortion. Transvaginal sonography was performed but it could not differentiate whether it is eccentrically located intrauterine gestational sac or cornual pregnancy. β -HCG levels were 95,000 IU/ml. We performed a weekly ultrasound surveillance and observed complaints disappearance, gestational sac implanted near the right tubal orifice and embryo with cardiac activity. **Conclusion:** Although ultrasound imaging has made great improvement over the last decades, diagnosing a cornual pregnancy remains challenging. The use of other imaging modalities, such as magnetic resonance imaging and three-dimensional ultrasound seem to be promising in the diagnosis. However, the higher cost and lower availability of these technologies make them most appropriate for cases in which two-dimensional ultrasound scans are inconclusive. We draw your attention to the necessary balance between surveillance of a potentially life-threatening situation and untimely attitudes that can end a life in its early stages.

P017

QUANTITATIVE ANALYSIS OF THE SHLA-G PROTEIN IN SEMINAL PLASMA

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Problem statement: Recent studies revealed that maternal and embryonic contributions impact on HLA-G protein expression and might contribute to pregnancy success or failure, respectively. The main objective of this study was to examine the paternal levels of the immunoregulatory soluble human leukocyte antigen-G (sHLA-G) protein in seminal plasma and testicular biopsy samples during artificial reproductive technique treatment (ART) and to investigate possible correlations with other semen parameters, age and pregnancy outcome of the female partner. **Methods:** Soluble HLA-G levels of 106 seminal plasma samples and 8 testicular biopsy samples were determined using a commercial sHLA-G ELISA kit. **Results:** We observed a significant negative correlation of male age with total sHLA-G amount [P 0.023, R -0.221] and semen volume [P=0.047, R -0.193]. Testicular biopsy samples were analyzed and tested positively with sHLA-G ELISA. Levels of sHLA-G in seminal plasma samples from men with normozoospermia did not deviate significantly from those with reduced semen quality. No significant difference of sHLA-G levels in seminal plasma and pregnancy outcome of the female partner was detected. Our data showed that age of men with normozoospermia was significantly lower when the female partner conceived after ART treatment [P=0.016, Mann-Whitney U test]. **Conclusions:** High sHLA-G levels in seminal plasma of the male partner appear not to be required for pregnancy but might contribute among other factors to the success of establishing and maintaining pregnancy through long term priming of the female uterine milieu.



P018

A CASE OF LIVE BIRTH AFTER EMBRYO TRANSFER WITH SIGNIFICANT FLUID IN ENDOMETRIAL CAVITYShayna Siew¹, Shuling Liu²¹Department of Obstetrics and Gynaecology, KK Women's and Children's Hospital, Singapore²Department of Reproductive Medicine, KK Women's and Children's Hospital, Singapore

Introduction: Endometrial cavity fluid (ECF) present during embryo transfer (ET) has been associated with lower clinical pregnancy rates due to failure of implantation. It occurs at an incidence of 2.9%-8.2%^{1,2}. Many gynaecologists will choose to abandon the cycle if ECF was detected before ET. Etiologies include tubal infertility, hydrosalpinges, polycystic ovarian disease and uterine infections³. **Case Presentation:** We present a case of successful implantation despite significant ECF at ET. She was a 28 year old lady with a history of a laparotomy bowel resection at 4-months of age. Initial subfertility investigations showed 6cm endometriotic cyst, adenomyosis and blocked right fallopian tube. There was no hydrosalpinx. Her ovarian reserves were normal and her husband had terozoospermia. She declined surgery for endometriotic cyst and was keen for IVF. ET during fresh cycle was cancelled due to high risk of ovarian hyperstimulation syndrome. She was scheduled for a natural thaw cycle but ultrasound before ET showed significant ECF (Figure 1). Despite counseling about the lower chance of pregnancy, the couple was keen to proceed with the ET. She had a successful implantation, and later delivered at full term via normal vaginal delivery.



Figure 1 Ultrasound scan showing significant ECF prior to ET

Discussion and Conclusion: ECF has been associated with poorer ART outcomes. ECF can be quantified by measuring the anterior-posterior diameter of fluid seen within the uterine cavity on ultrasound. A large retrospective controlled study showed no significant difference between patients with ECF 1. Although our patient had a significant ECF of This was a rare case of a successful pregnancy and subsequent live birth despite multiple factors not favoring this outcome. Hence, it is still plausible to consider and proceed with ET even in the presence of significant ECF after adequate counseling and discussion with the couple.

P019

CONTROLLED OVARIAN STIMULATION IN BREAST CANCER PATIENTS: DOES RECEPTOR STATUS MAKE A DIFFERENCE?Stephanie Sii, Genia Rozen, Alex Polyakov, Franca Agresta
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Problem Statement: Breast cancers can be classified as estrogen receptor positive (ER+) or estrogen receptor negative (ER-). Approximately 75% breast cancers are ER+ which generally respond to endocrine therapies such as tamoxifen and are

associated with a better prognosis. ER- cancers, on the other hand, are more aggressive, associated with a higher mortality rate. We designed our study aiming to evaluate controlled ovarian hyperstimulation (COH) outcomes such as oocyte yield, mature eggs frozen, recombinant FSH dose and duration of stimulation between the ER+ and ER- groups with tamoxifen exposure.

Methods: We performed a retrospective cohort analysis on 204 breast cancer patients presenting for fertility preservation at the Royal Women's Hospital in Melbourne from 2013 to 2018. Within our cohort, 146 patients were ER+ and 58 were ER-. The mean age was 35.1 and 33.3 years in the ER+ and ER- groups, respectively. The patient underwent antagonist cycles with tamoxifen administered for the duration of stimulation in the ER+ group. Eighty of these patients underwent embryo freezing while mature egg freezing was performed in the remainder 124 patients.

Results: There were no observed significant difference in the ER+ and ER- groups with respect to the mean eggs collected (13.2 and 11.8, respectively). The FSH starting dose was similar in both groups (253.3 and 251.9IU) as well as FSH duration (mean 13.8 and 13.2 days). There was a statistical difference in the mean number of mature eggs frozen (12.3 and 9.4, p-value 0.05) favouring the ER+ group and cannot be attributed to age. The mean number of embryos frozen was the same for both groups (4.9 and 4.6). **Conclusion:** Fertility preservation is an essential part of breast cancer management and should be offered at the time of cancer diagnosis. Our study demonstrated a higher number of mature eggs in the ER+ group compared to the ER- group. For those who underwent embryo freezing, the mean number of embryos frozen was similar in both groups. Overall, the COS outcomes were similar for patients with breast cancer, irrespective of receptor status and the co-treatment with tamoxifen.

P020

ENDOMETRIAL VOLUME AND ADJUSTED ENDOMETRIAL VOLUME ASSESSMENT OF ENDOMETRIAL RECEPTIVITY IN ASSISTED REPRODUCTIVE TECHNOLOGY CYCLESRenato Silva Martins^{1,2}, Antonio Helio Olliani^{1,2}, Denise Vaz Olliani^{1,2}, Jose Martinez De Oliveira^{1,2}¹Unidade Medicina Reprodutiva, Centro Hospitalar Universitário Cova Da Beira Epe, Covilhã, Portugal²Centro Investigação Ciências Da Saúde – Faculdade Ciências Da Saúde, Universidade Beira Interior, Covilhã, Portugal

Problem statement: To evaluate Endometrial Volume and Adjusted Endometrial Volume continuous analysis as a predictor of Endometrial Receptivity in Assisted Reproductive Technology (ART) Cycles. **Methods:** Serial 3D transvaginal ultrasound performed in women on ART cycle to evaluate a pattern that better predicts implantation rates. 169 subjects on a prospective case control study were assessed. Endometrial pattern, endometrial thickness, endometrial volume and adjusted endometrial volume (ratio between endometrial volume and uterine volume) was performed to all subjects at baseline (prior to ovarian controlled stimulation), at day 6, 8 and 10 of controlled ovarian stimulation, at trigger day and at embryo transfer day. **Results:** No statistical difference was noted between the two groups in terms of demographics and ART procedures and scores. Endometrium Morphology also didn't show any difference between the two groups. Endometrial Thickness was significantly higher on the implantation group after Day 8 of controlled ovarian stimulation, but Endometrial Volume and Adjusted Endometrial Volume was significantly higher in the implantation group as soon as day 6 of ovarian controlled stimulation. **Conclusions:** Serial 3D Endometrial Volume and Serial Adjusted Endometrial Volumes may be a useful tool for clinicians in predicting endometrial receptivity enhancing elective embryo transfers in the same ART cycle. Keywords Endometrial Receptivity, Assisted Reproductive Technology, Endometrial Volume, Embryo Implantation. The authors do not report any conflict of interest.

P021

OUTCOME OF ICSI-ET CYCLES IN WOMEN PRESENTING WITH LOW ANTI-MULLERIAN HORMONE IN SOUTHERN INDIA

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Problem statement: Anti-Mullerian Hormone (AMH); a proven marker of ovarian reserve, is known as the most reliable predictor of ovarian responsiveness to various controlled ovarian stimulation. Its role as a predictor of clinical pregnancy in assisted reproductive techniques (ART) is debatable. Our study aimed to analyze the outcome of Intra-Cytoplasmic Sperm Injection Embryo Transfer (ICSI-ET) cycles in women with low circulating AMH and factors affecting their probability of conception. **Methods:** We performed a retrospective analysis of details of 136 women with low circulating AMH (AMH2.19ng/ml) levels who had undergone ICSI-ET cycles for a period of 6 months (January - June 2019). **Results:** In our study, of the 136 women with low circulating AMH, 91 (66.9%) were with AMH in the range of 1 ng/ml-2.19ng/ml and remaining 45 (33.1%) were with less than 1ng/ml. Most women, 61(44.9%) were more than 35 years of age, 46(33.8%) were between 30-34 years, and; 29(21.3%) were below 30 years. Clinically positive pregnancy was observed in 54/136 (39.7%) women. More than half of the women (51.6%) with positive pregnancy outcome had AMH in the range of 1.0ng/ml-2.19ng/ml, whereas only 15.6% women with AMH 1ng/ml were clinically positive. The observed difference was statistically significant (p-value0.01). On further analysis, it was observed that more than half of the women (55.2%) with age less than 30 years had positive pregnancy outcome whereas it decreased to 47.8% in the age group 30-34 years. The recorded clinical pregnancy in women 35 years was only 26.2%. The difference in the clinical pregnancy rate amongst these groups was observed to be statistically significant (p-value- 0.01). **Conclusion:** Circulating low AMH is significantly associated with reduced chances of positive outcomes in ICSI-ET cycles. The chances of achieving pregnancy are good at young age but, significantly reduced with advanced chronological age. Thus, levels of circulating AMH plays a vital role in predicting the chances of pregnancy in women of advanced age groups.

P022

EVALUATION OF CLINICAL & EMBRYOLOGICAL FACTORS INFLUENCING PREGNANCY OUTCOMES IN THE FIRST FROZEN BLASTOCYST TRANSFER: A RETROSPECTIVE STUDY, IN IVF HUNG VUONG

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Problem statement: At present, blastocyst transfer is an efficient embryo transfer method associated with satisfactory pregnancy outcomes, and performing blastocyst transfer may have benefits. The aim of this study was to investigate which factors contribute to the incidence of clinical pregnancy rate (CPR) in the first frozen blastocysts transfer. **Methods:** In this study, we analyzed the data from 342 women who were subjected to the first frozen blastocyst transfer registered from Jan 2017- Dec 2018 at the IVF Hung Vuong, Ho Chi Minh city, Viet Nam. Baseline data and pregnancy outcomes were collected. We performed a retrospective analysis of clinical and embryological factors that potentially influence the outcome of the first frozen blastocyst transfer. **Results:** The outcome of 342 cycles in our analysis was the clinical pregnancy rate and ongoing pregnancy rates after the first frozen blastocysts transfer was 52.3 % and 38.3 %. Age, type of infertility, IVF indications, AMH, ovarian stimulation response (numbers of follicles, oocytes and mature oocytes), endometrial thickness, embryo transfer distance) were similar in the success and failure groups. The study recorded fertilization rate and blastocysts rate in

the success were higher in failure group but not significantly different (p0.05). The number of blastocyst in first transfer (single versus double) resulted in a significantly higher CPR [40.7% versus 52.7%; odds ratio (OR) 1.63, 95% confidence interval (CI) 1.02–2.62]. Similarly, No. of good quality blastocyst transfer resulted in a significantly [OR 2.19, 95% CI (1.41 - 3.41)] higher CPR compared with the group without good blastocyst transfer. As expected, the multiple pregnancy rate was significantly lower for single blastocyst transfer compared with double blastocyst transfer [OR 4.63 CI (1.61 - 13.35)]. **Conclusion:** The number and the good quality of the blastocyst transferred significantly influences clinical pregnancy rate in the first transfer. In general, consideration should be given to the transfer of blastocyst stage embryos. Limiting the number of transferred embryos can be reduced the multiple pregnancy rate.

P023

COMPARISON OF LIVE BIRTH RATES BETWEEN FROZEN SINGLE AND DOUBLE EMBRYO TRANSFER FOLLOWING A FAILED FRESH SINGLE BLASTOCYST TRANSFER

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Problem statement: In clinical practice, after a failed fresh single blastocyst transfer (SBT), both clinicians and the women may choose to transfer two embryos in the thaw cycle. This retrospective study aims to evaluate whether livebirth rates differ between a frozen single embryo transfer (SET) and a frozen double embryo transfer (DET) after a failed fresh SBT in a tertiary hospital in Singapore. **Methods:** Women who have undergone fresh SBT from 2014 to 2018 were recruited from the Reproductive Medicine Department database in KK Women's and Children's Hospital in Singapore. Women were excluded if they had only one available embryo for fresh transfer or if outcome data was missing. The primary outcome was livebirth rate. Analysis was done using Stata/IC 11.0. **Results:** A total of 535 women who had a SBT in a fresh cycle were included. The mean age was 33.8 years old. The average number of oocytes retrieved and number of embryos frozen were 14.8 and 5.2 respectively. The livebirth rate, inclusive of both singleton and twins, was 38.9%. Out of the 327 women who did not achieve a live birth in the fresh cycle, 204 underwent a thaw cycle. Five women had compulsory SET (cSET), 115 chose elective SET (eSET) and 72 chose DET. The majority of transfers in the thaw cycle was blastocyst transfer. The livebirth rates for cSET, eSET and DET were 40%, 24.3% and 36.1% respectively, which were significantly different, even after excluding non-blastocyst transfers in the thaw cycle. There were six twin livebirths in the DET group while there were none in the cSET and eSET groups. **Conclusion:** In clinical practice, a woman may opt for DET in her thaw cycle after a failed fresh SET cycle. From this study, a frozen DET is associated with significantly higher livebirth rate than a frozen SET but also significantly higher rate of twin births. Success rates and risks of higher order pregnancies have to be balanced when deciding whether to transfer a single or double embryo in a thaw cycle after a failed fresh single embryo transfer.

P024

EFFECT OF JOGYEONGBOHYEOLDAN (JBD) ON THE RESTORATION OF OVARIAN FUNCTION IN AGED FEMALE MICE

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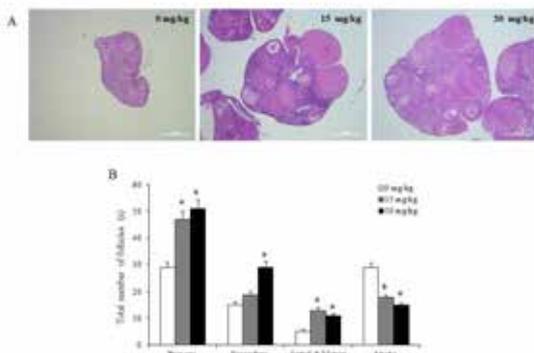
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Problem statement: Ovarian aging remains a representative unmet demand of infertility treatment. Jogyeongbohyeoldan (JBD) is an oriental herbal medicine used to improve female fertility. This study investigated whether JBD restores ovarian function and simulates gene expression related to activation of primordial



follicle, ovarian stem cells and angiogenesis in aged female mice. **Methods:** C57BL/6 female mice aged 12 months (natural ovarian aging, NOA) were administered every day with JBD of 15 mg/kg (n=7) and 30 mg/kg (n=7) of body weight for 4 weeks using oral zoned needle. The control group (n=7) was treated with normal saline. After final treatment of JBD, ovaries were collected, and follicle counts were evaluated by histological study and ovarian mRNA expressions of genes related to PI3K/mTOR (4E-BP1, S6K1, RPS6) and Hippo (MST1, LATS1) signaling pathway for the activation of primordial follicle and ovarian stem cells, and angiogenesis (VEGF, Visfatin, and SDF-1 α) were evaluated by quantitative real-time PCR. In the second experiment, NOA and premature ovarian failure (POF) mice were treated with JBD in the same manner as above, (n=7 each), and they were superovulated with PMSG and hCG, followed by mated with male mice. Zygotes were retrieved and cultured for 4 days, and numbers of zygotes and embryo development rate were examined. **Results:** JBD significantly increased numbers of surviving follicles (primary, secondary, and antral/mature) and ovarian mRNA expression of 4EBP1, S6K1, RPS6, MST1, LATS, VEGF, and SDF-1 α . Also, JBD significantly increased numbers of zygotes retrieved and embryo development rate to blastocyst in both NOA and POF mice compared to the control group (P 0.05). **Conclusion:** These results show that JBD can restore ovarian aging and improve ovarian function and oocyte quality in aged mice. Also, this study suggests that JBD can activate PI3K/mTOR and Hippo signaling, ovarian stem cells, and ovarian angiogenesis. There are no conflicts of interest.

Figure



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DIAGNOSTIC PROCEDURES

P025

CORRESPONDENCE BETWEEN ULTRASOUND FINDING, HYSTEROSCOPY AND HISTOLOGICAL RESULTS IN PREMENOPAUSAL WOMEN

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Problem statement: Hysteroscopy is a common procedure performed by gynecologists due to its diagnoses and therapeutic capacity and low rates of complications. In premenopausal women it is usually indicated after an abnormal ultrasound result suggesting submucous fibroids or polyps or in patients with severe abnormal uterine bleeding. Although ultrasound (US) has a good accuracy in predicting structural lesions, hysteroscopy might be necessary for accomplishing adequate diagnosis and its capacity

of imaging the interior of the uterine cavity while performing the procedure makes it far more accurate than curettage or any other available method. **Objectives:** The aim of this study is to compare ultrasound, intra operative and histological finding in premenopausal women submitted to hysteroscopy. **Patients and Methods:** This is a retrospective study that recruited a total of 86 premenopausal patients who underwent a hysteroscopic procedure indicated after an ultrasound scan suggesting endometrial polyps or submucous fibroids. **Results:** A total of 28 patients presented US suggesting submucous fibroids (SF) and the remaining 58 had findings suggesting endometrial polyps (EP). Regarding patients with US suggesting SF, twenty-six (93%) presented hysteroscopic findings and histological results confirming the initial diagnosis; one (3,5%) presented a normal hysteroscopy with no structural lesions found and in one (3,5%), an endometrial polyp was found, confirmed by histological result. In other hand, regarding patients with US suggesting EP, forty-nine (84,5%) presented hysteroscopic findings and histological results confirming the initial diagnosis, four (8%) presented a normal hysteroscopy and 5 (10%) presented hysteroscopic findings and histological results confirming submucous fibroids. **Conclusions:** In general, ultrasound finding are confirmed by hysteroscopic findings and histological results. This correlation seems better when the initial diagnosis is submucous fibroids. In this particular study hysteroscopic findings were confirmed by histological results in all patients.

P026

HYSTEROSCOPIC MANAGEMENT OF CESAREAN SCAR ECTOPIC PREGNANCY: A CASE REPORT

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Problem statement: Caesarean scar pregnancy (CSP) is a rare iatrogenic entity, affecting 1/2000 pregnancies. It represents about 6% of ectopic pregnancies in women with a previous caesarean section. This situation must be distinguished from a spontaneous abortion in progress or a cervical pregnancy. The management of CSP is an unexplored clinical field and a standard protocol is still missing. The hysteroscopic removal of CSP is an option. **Methods:** Retrospective case report. In this case report, we describe a woman with CSP diagnosed by transvaginal ultrasound who was initially treated as spontaneous abortion in progress with vaginal misoprostol and underwent a hysteroscopic surgery after medical treatment failure. **Results:** A 41-year-old woman, gravida 5, with a past history of one caesarean section. She went to the emergency department of Hospital Senhora da Oliveira 10 days after she has been treated in another institution for spontaneous abortion in progress, with vaginal misoprostol. She reported amenorrhea for eight weeks and had a normal clinical exam, with only small vaginal bleeding. Transvaginal ultrasound showed an enlarged uterus, and a hypoechoic structure at the isthmus overlying the caesarean scar, compatible with a gestational sac, which presented yolk sac and an embryo with cardiac activity. The adnexa were normal. Hysteroscopic surgery was decided. The operative finding revealed a gestational sac in a caesarean scar defect. The resection was performed using hysteroscopic scissors and grasping forceps. The gestational tissue was cut and it was completely removed. The caesarean scar defect was inspected to ensure that there were no remaining tissue. No perforation or other complications occurred during the operation. The postoperative period was uneventful and she was discharged on the 2nd day after the surgery. Her serum β -hCG level was 169 mIU/mL 4 weeks later. **Conclusion:** An early and prompt diagnosis of CSP is essential. Hysteroscopic removal of CSP provides good prognosis and should be an option for CSP management.

P027

COMPARISON BETWEEN OPERATIVE HYSTEROSCOPY AND HISTOPATHOLOGICAL FINDINGS

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Problem statement: Operative hysteroscopy is a minimally invasive gynecological procedure in which an endoscopic optical lens is inserted through the cervix into the endometrial cavity to direct treatment of various types of intrauterine pathology, such as endometrial polyps and uterine fibroids. The accuracy of diagnosis based on hysteroscopic visualization is high for endometrial cancer, but only moderate for other endometrial diseases.

Methods: A retrospective data analysis from all cases of operative hysteroscopy in our ambulatory surgery unit from July 2014 to July 2019 was conducted. The percentage agreement between hysteroscopic and histopathological findings was assessed.

Results: 2015 gynaecological ambulatory surgeries were performed, of which 880 (43.7%) were operative hysteroscopy with bipolar resectoscope under general anesthesia. 42 cases were excluded (complications that made the surgical procedure unfeasible or other procedures besides polypectomy, myomectomy or endometrial resection). The mean age was 50.94 +/- 8.6 years (minimum 23 and maximum 80). The major hysteroscopic findings were: polyp (73%, n=612), fibroid (12.4%, n=104) and endometrial hypertrophy (11%). The major histopathological findings were: endometrial polyp (60.9%, being the most frequent hyperplastic (n=314) and atrophic (n=117)), leiomyoma (14.7%), non-atypical simple endometrial hyperplasia (4.4%), and adenomyoma, atypical endometrial hyperplasia (simple and complex) in less than 1% of the cases. Normal histopathological findings were present in 12.5% of cases, with the most frequent being secretory endometrium (n=68). The majority of the histological diagnosis confirmed hysteroscopic findings: fibroid (94.2%), polyp (82.2%) and endometrial hypertrophy/hyperplasia (38.7%). 10% of polyps and 47% of endometrial hypertrophy diagnosed in hysteroscopy were actually normal histopathological types of endometrium, being the most frequent secretory endometrium (7.5 % and 23.7% respectively).

Conclusion: The accuracy of diagnosis based on hysteroscopic visualization is very high for benign lesions such as uterine fibroid (94%) and endometrial polyp (82%). Torturous and crowded glands of a late secretory endometrium can mimic a variety of intrauterine pathology, which makes it difficult the differential hysteroscopic diagnosis and increases the risk of an unnecessary operative hysteroscopy. No conflicts of interest to declare.

P028

UTERINE BLEEDING IN POSTMENOPAUSAL WOMEN – THE ROLE OF HYSTEROSCOPY

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Problem statement: Uterine bleeding (UB) is one of the most common symptoms in gynaecological practice. Hysteroscopy is commonly considered the gold standard technique for the endometrium evaluation, allowing a direct view of the uterine cavity as well as diagnostic and therapeutic procedures. The aim of this study was to evaluate the role of hysteroscopy in the diagnosis of endometrial pathology and its relation to postmenopausal UB.

Methods: Retrospective study, including postmenopausal women with thickened endometrium (4mm) diagnosed by transvaginal ultrasound, who were submitted to hysteroscopy in Braga's Hospital, between January and December 2018. The sample was

divided into two groups: without UB (G1); with UB (G2). Sensitivity, specificity and accuracy of hysteroscopy were evaluated. Histological findings were classified as normal if they were atrophic or lightly proliferative; benign in cases of endometrial polyps, myomas, endometritis, adenomyosis or endometrial hyperplasia; and malignant if endometrial cancer. Descriptive and analytic evaluation was performed with SPSS and sensitivity, specificity and concordance coefficient (k) was calculated (p<0.05 level of significance). **Results:** A total of 139 patients were included in the study. Mean age was 62±7.7 years in G1 and 64,1±10.2 in G2 (p<0.05). Hypertensive disorders were more common in G2 (33.3% vs. 50.7%; p=0.04). No differences were found between the groups regarding age of menopause, body mass index, parity, hormonal replacement therapy or tamoxifen use. In hysteroscopy evaluation, polyps were the most common pathology in both groups but significantly more frequent in G1 (58.7% vs 34.4%, p=0.01). Overall rate of malignancy was 7.9%, but all cases had UB (0 vs. 18.6%, p<0.001). Malignancy was also significantly associated with a greater endometrial thickness when compared to benign pathology (12.3mm vs 26.2mm; p=0.01). For benign pathology, global hysteroscopy sensitivity was 97.9% and specificity 80.0%. For malignancy sensitivity was 91.6% and specificity was 99.5%. Kappa concordance coefficient for benign pathology was 0.76 for G1 and 0.88 in G2, and for malignancy was, respectively, 0.76 and 0.87. **Conclusions:** Uterine bleeding is strongly associated with endometrial malignancy. Hysteroscopy is a valuable and minimally invasive procedure that can improve diagnostic accuracy of endometrial pathology.

FETOMATERNAL MEDICINE

P029

DO CERVICAL INTRAEPITHELIAL NEOPLASIA (CIN) AND HUMAN PAPILLOMA VIRUS (HPV) INFECTION PREDISPOSE TO UTERINE TACHYSYSTOLE WHEN DOUBLE BALLOON CATHETER (DBC) IS CONSIDERED FOR CERVICAL RIPENING? CASE REPORT

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Problem statement and Background: Induction of Labour occurs in up to 20% of pregnancies in UK¹ and Double Balloon Catheter (DBC) is used commonly in this setting. DBC is associated with lower risk of uterine tachysystole when compared with prostaglandins^{2,3}. Certain conditions increase the likelihood of uterine tachysystole, such as hypertension⁴, but are there risk factors that make tachysystole more likely to happen when DBC is used? We couldn't find an answer for this question in the literature.

Case Presentation: We are presenting the case of a 31-year-old primigravida woman, who had a history of CIN1 and HPV in 2014 and was conservatively managed. She got pregnant in 2018 and had an uneventful pregnancy until gestational age 38 weeks+5 days, when she developed mild preeclampsia, and had induction for labour using DBC. She developed uterine tachysystole four hours after DBC insertion, and so it was removed. Subsequently, she had two different preparations of dinoprostone, artificial rupture of membranes and oxytocin infusion without uterine overactivity and delivered vaginally thereafter. **Discussion and Conclusions:** The patient had uterine overactivity with DBC, and such tachysystole didn't happen when prostaglandin E2 and oxytocin infusion were used. This is interesting, because in one study oxytocin was found to increase risk of tachysystole by 2- to 3-fold⁴. We believe this should prompt further research into the risk factors of uterine tachysystole in women receiving DBC. Patient has given her informed consent to publish her case. No conflicts of interest have been identified. References: 1.National Institute for Health and Care Excellence Interventional procedures guidance (IPG528). *Insertion of a double balloon catheter for induction of labour in pregnant women without previous caesarean section.* July



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P030

ANENCEPHALUS - FIRST TRIMESTER DETECTIONNurije Aliji¹, Filonid Aliji¹, Vesna Livrinova²¹Gynaecology/Obstetrics, PHI "Niti" Kumanovo, 1300, Macedonia²Gynaecology/obstetrics, University Clinic for Gynaecology/obstetrics Skopje, Skopje, Macedonia

Problem statement: Anencephaly is a malformation which is characterized with the partial absence of the brain, skull and scalp and often is accompanied with other neural tube anomalies. The defect occurs in the 4th week of pregnancy when the neural tube closes. In relation to this, a daily dose of 0,4mg folic acid, 3 months before conception and in the first trimester of pregnancy, greatly reduces the incidence of this anomaly. Usually the anomaly is diagnosed in the 2nd trimester of the pregnancy. The struggle for even earlier diagnosing still remains. Anencephaly statistically is present in 1:1000 - 1:10.000 livebirths depending on the perinatal screening of different countries in the world. **Methods:** We are presenting a case of anencephaly diagnosed in the first trimester. First ultrasound results were of an embryo of CRL 6,79 mm which translates to a 6W 4D old embryo. Second ultrasound after two weeks with CRL 15,5 mm corresponding to 8W 0D old with positive impulse action. The age of the embryo is actually 8W 4D and CRL should be about 19,4mm. Measurement errors are inside the range of 2,1 mm and even taking this into consideration the CRL is inadequate. Besides this discrepancy, the embryo has an "odd" cranial shape which appears to be "jagged" (photo) unlike a normal embryo of the same age. Next ultrasound in the 11th week furthermore increases the already set doubts of anencephaly. The patient is sent to a tertiary health institution for consulting. A decision was made for the patient to be evaluated with ultrasound every two weeks and during the 13th week the pregnancy was spontaneously terminated. **Results:** When suspecting a possible anomaly in a pregnancy, permanent monitoring is done. In our case, after the termination of the pregnancy the 80mm embryo is sent for histopathological analysis. The diagnose is confirmed, anencephalus with rachischisis. **Conclusion:** Anencephaly is a major congenital anomaly which today can be detected early in the first trimester of the pregnancy. Early termination is in favor of the physical and mental health of the mother.



P031

PERIPARTUM CARDIOMYOPATHY AFTER CESAREAN SECTION IN WOMEN WITH PRE-ECLAMPSIA RELATED TO MORE SEVERE OUTCOME: CASE SERIESAloysius Suryawan¹, Budi Handono², Alfonsus Zeus Suryawan¹, Yohan Hapdijaya¹¹Obstetric and Gynecology Department, Fetomaternal Subdivision, Maranatha Christian University, Bandung, Indonesia²Obstetric and Gynecology, Fetomaternal Subdivision, Padjadjaran University, Bandung, Indonesia

Problem statement: Peripartum Cardiomyopathy (PPCM) is unusual and uncommon form of non-ischemic dilated cardiomyopathy that presents in the last month of pregnancy or within 5 months after delivery in the absence of other causes. The incidence of PPCM is 1 in 3,000 normal pregnancies with mortality rate as high as 50% to 75%. The etiology of PPCM could be many potential causes, including viral myocarditis, abnormal immune response in pregnancy and abnormal response to the increased hemodynamic burden of pregnancy. The occurrence of PPCM in woman with pre-eclampsia is a very rare case. This case series present two women with pre-eclampsia underwent Cesarean Section and affected by PPCM. The limitation on data and the rarity of similar case cause difficulties in the management. **Method:** Case Series. **Result:** Peripartum Cardiomyopathy related to more severe effect for women with pre-eclampsia who underwent Cesarean Section and might be influenced by an excess secretion of anti-angiogenic factor from the placenta. In this case series, one woman survives but the other woman died in the ICU due to organ failure. **Conclusion:** Peripartum Cardiomyopathy occurred after Cesarean Section in woman with pre-eclampsia can cause very severe effect and even death. Keywords: PPCM, toxemia gravidarum, Cesarean Section

P032

PROSPECTIVE NON INVASIVE STUDY OF THE ENDOTHELIAL FUNCTION BY UTERINE ARTERY DOPPLER FLOW VELOCIMETRYElefterios Anastasakis², Panagiotis Antsaklis¹, Michael Sindos¹, George Daskalakis¹¹Fetal Medicine, Alexandra Maternity Hospital, Greece²infertility, Athens Navy Hospital, Greece

Problem statement: Pre-eclampsia increases the risk of future cardiovascular disease. Worth to investigate the association between abnormal uterine artery Doppler results at 20-23 weeks of gestation with the risk of pre-eclampsia and structural endothelial tests (increased cIMT). **Method:** Prospective study between 02/2005 - 02/2007. The study population consisted of 64 low risk pregnant women presenting at "Alexandra" Maternity Hospital, Athens, Greece for the second trimester anomaly scan. The women were divided into 2 groups on the basis of their pulsatility index (PI); A mean PI ≥ 1.6 was considered abnormal. **Results:** None of the women with normal uterine artery Doppler characteristics developed pre-eclampsia/ infants of appropriate size (mean weight: 3418 \pm 216 g). 6 women developed pre-eclampsia and 10 women delivered IUGR fetuses in the study group. The mean weight of the delivered infants in the latter group was 2908 \pm 414 g ($p < 0.001$). The detection of abnormal uterine artery Doppler flow was associated with an increased left ($p = 0.011$) and mean ($p = 0.005$) internal carotid artery IMT. These associations remained significant even when the associations were performed with the development of pre-eclampsia as a dependent variable. **Conclusion:** Abnormal uterine artery Doppler flow velocimetry is associated with an increased internal cIMT and a greater risk of future pre-eclampsia. In our study we used the cIMT as a surrogate marker of atherosclerosis and future cardiovascular disease/events. Women with abnormal uterine artery Doppler results had higher MDA levels (an index of oxidative stress) compared with women with normal uteroplacental flow. A number of studies showed that pre-eclampsia and IUGR are associated with increased oxidative

stress. Based on our findings, we suggest that an abnormal uterine artery Doppler examination at 20-23 weeks of gestation may predict an increased cardiovascular risk in women whether or not they develop pre-eclampsia. Results require verification in large-scale trials. Identifying pregnant women at risk of developing future cardiovascular events will allow the early implementation of preventive measures.

P033

WHY 40 IS NOT THE NEW 20? PREGNANCY AND OBSTETRICAL OUTCOMES IN WOMEN OF ADVANCED MATERNAL AGE

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Problem statement: There has been a notable shift to pregnancy at older maternal ages, which is generally agreed upon as age over 40 years. It is well recognized that women who delay childbearing are at increased risk of pregnancy complications. Our study aimed to compare the incidence of births to older women from 1 January 1995 to 31 December 1997 and from 1 January 2014 to 31 December 2016 and to evaluate the effects of advanced maternal age on pregnancy outcomes in Clinical Hospital Center Rijeka. **Methods:** Maternal and obstetrical data were collected from the Register of Clinical Hospital Center Rijeka. We compared the outcomes for women aged ≥ 40 years with those of three younger subgroups stratified by maternal age (20 years; 20-29 years (control group); 30-39 years). Statistical analyses were performed using Statistica 13.3.0. and MedCalc for Windows. In all analyses, P-values less than 0.05 were considered statistically significant. **Results:** Over the last two decades, the percentage of mothers aged ≥ 40 years has increased from 2.1% to 3.8% ($\chi^2=46.25$; $P<0.001$). A similar change has taken place in the rates of first-time mothers over 40, showing an increase of 64.1% compared to the 1990s. Moreover, our data revealed a notable rise in the frequency of both autosomal (61.1%) and sex chromosomal aneuploidies (68.2%), as a woman ages. Besides, we found a statistically significant association between pregnancy losses (ectopic pregnancies and abortions) and advanced maternal age. This association might reflect a decline in oocyte quality and/or changes in uterine and hormonal function. Finally, women ≥ 40 years of age are more likely in the diagnosis of hypertensive disorders (OR=1.86; $P=0.009$), gestational diabetes mellitus (OR=3.81; $P<0.001$) and preterm birth (OR=2.09; $P<0.001$). Compared to the control group, both elective (OR=5.83; $P<0.001$) and emergency (OR=1.67; $P<0.001$) Caesarean section, as well as instrumental vaginal delivery (OR=3.19; $P=0.002$), occur more often in older women. However, their neonates do not show higher odds for Apgar ≤ 7 and/or perinatal mortality. **Conclusion:** In conclusion, the results of our retrospective analysis indicate a significant increase in delayed childbearing and propose advanced maternal age as a risk factor for pregnancy and obstetrical complications. **Conflicts of interest:** none

P034

THE CHILDBIRTH EXPERIENCE QUESTIONNAIRE (CEQ) - VALIDATION OF ITS USE IN A DANISH-SPEAKING POPULATION OF NEW MOTHERS STIMULATED WITH OXYTOCIN DURING LABOUR

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Problem statement: When determining optimal treatment regimens, patient reported outcomes including satisfaction are increasingly appreciated. Furthermore, it is well established that the birth experience may affect the postnatal attachment to the newborn and on the management of subsequent pregnancies and deliveries. As no robust validated Danish tool to evaluate the childbirth experience exists, we aimed to perform a transcultural adaptation of the Childbirth Experience Questionnaire (CEQ) to a Danish context. **Methods:** In accordance with the COnsensus-based Standards for the selection of health Measurement INstruments (COSMIN), we translated the CEQ from Swedish to Danish. The Danish CEQ was tested for content validity among 10 new mothers. In a population of women who have had their labour induced with oxytocin, we then assessed the electronic questionnaire for validity and reliability using factor analytical design, hypothesis testing, and internal consistency. Based on these data, we determined criterion and construct responsiveness in addition to floor and ceiling effects. **Results:** The content validation resulted in minor adjustments in two items. This improved the comprehensibility. The electronic questionnaire was completed by 377 of 495 women (76.2%). The original Swedish CEQ was four-dimensional, however an exploratory factor analysis revealed a three-dimensional structure in our Danish population (Own capacity, Participation, and Professional support). Parous women, women who delivered vaginally, and women with a labour duration 12 hours had a higher score in each domain. The internal consistency (Cronbach's alpha) ranged between 0.75 and 0.89 and the ICC between 0.68-0.93. We found ceiling effects of 57.6% in the domain Professional support and of 25.5% in the domain Participation. **Conclusion:** This study offers a transcultural adaptation of the CEQ to a Danish context. The 3-dimensional Danish version of the CEQ demonstrates construct validity and reliability. Our results revealed a significant ceiling effect especially in the domain Professional support, which needs to be acknowledged when considering implementing the CEQ into trials and clinical practice.

P035

FACTORS ASSOCIATED WITH SUCCESSFUL VAGINAL BIRTH AFTER INDUCTION OF LABOR IN WOMEN WITH A PREVIOUS CESAREAN SECTION

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Problem statement: The success rate of vaginal birth after cesarean section (VBAC) diverge between studies and controversy remains about the safety of induction of labor (IOL) in women with previous cesarean section (CS). Different scoring tools have been developed to help predict whether a woman will have a successful spontaneous VBAC. However, there are few scoring systems predicting the success VBAC after IOL. The purpose of this study is to identify maternal, fetal, and pregnancy characteristics that independently predict the success of IOL, defined as a vaginal delivery (VD) in women with previous CS. **Methods:** A retrospective cohort study was conducted including all women with singleton pregnancies and a previous single CS who attempted IOL at Braga's Hospital (tertiary center) from January 2016 until December 2018. Prenatal determinants of women with vaginal birth after IOL were compared to those who failed VD. Pregnancies with non-cephalic presentation and with any ontraindications for VD were excluded. The induction methods used were: vaginal insert of dinoprostone 10mg if Bishop score (BS)= to 6 and oxytocin infusion if BS6. To evaluate factors predicting VD after IOL, a binary logistic regression was performed. **Results:** A total of 202 women were enrolled, and 99(49.0%) delivered vaginally. The main indications for IOL were post-date pregnancy (36.6%) and premature rupture of membranes (PROM) (25.2%). Body mass index ($p=0.03$), favorable BS ($p=0.03$), IOL for PROM ($p=0.02$),



previous VD ($p=0.04$) and previous VD after CS ($p=0.03$) were associated with VBAC. Otherwise, maternal obesity ($p=0.04$) and newborn birth weight 4000g ($p=0.05$) appeared to be associated with failure of IOL. Uterine rupture during labor occurred in one case (0.5%). After performing a binary logistic regression BS, previous VD after CS and IOL for PROM significantly predict the occurrence of VBAC, $X^2(3)=28.8, p<0.001, R^2=0.19$. **Conclusion:** In this study, favorable BS, previous VD after CS and IOL for PROM were associated with successful VBAC, while obesity was associated with failure. These determinants may be useful for development of an admission scoring system predictor of successful VBAC after IOL. It could be valuable in counselling women with previous CS for the option of IOL or repeat CS.

P036

CONSERVATIVE MANAGEMENT OF EARLY-ONSET PREECLAMPSIA WITH SEVERE FEATURES: MATERNAL AND PERINATAL RESULTS AND ASSESSMENT OF CAUSES FOR EARLY DELIVERY

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Problem statement: Hypertensive disorders in pregnancy, such as preeclampsia (PE) remains as an important cause of maternal and perinatal morbidity and mortality. In most cases of PE with severe features immediately delivery must be required and frequently, this condition happens before 34 weeks of pregnancy, carrying out the risk of perinatal complications linked to prematurity. Conservative management in these conditions aims to allow more time for fetal development and growth but meanwhile maternal stability must be constantly assessed, in order to prevent complications such as HELLP syndrome, eclampsia, eclampsia or death. Any signs of maternal instability or organ failure must indicate immediately delivery despite gestational age or fetal condition. **Objectives:** The aim of this study is to evaluate maternal and perinatal results and the reasons for delivery in patients with the diagnosis of PE with severe features, admitted for conservative management, who required delivery before 34 weeks of pregnancy. **Patients and Methods:** This is a retrospective study that recruited all patients with the diagnose of PE with severe features who required delivery before 34 weeks of pregnancy. The reasons for the premature delivery were categorized and the medians of hospital stay and intensive care period were calculated for the mother and newborn. **Results:** A total of 72 patients matched the criteria during the period between January of 2016 and December of 2018. The most common reason for premature delivery was the impossibility of controlling the arterial pressure even with the use of combined antihypertensive drugs (2 or more). This reason alone was responsible for the premature delivery of 24 patients (33.3%). Plaquetopenia was responsible for 16 cases (22.2%), followed by premature placental abruption (8 cases, 11.1%) and eclampsia (7 cases; 9.7%). **Conclusions:** Conservative management of early-onset preeclampsia with severe features remains a challenge for obstetric care. A considerable number of cases will develop clinical conditions that won't allow enough time for the administration of corticoids and adequate fetal development. This study showed that difficulties to control arterial pressure and plaquetopenia are the two most common reasons for this situations.

P037

PHARMACOLOGICAL TREATMENT OF GESTATIONAL DIABETES

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Problem statement: Gestational Diabetes (GD) is associated with several maternal/fetal complications and its adequate metabolic control may allow to minimize them. Currently, the two most oftenly used pharmacological agents are: metformin and insulin. The latter is considered first line because of its safety and efficiency. However, metformin, for its convenience, lower price and better performance in pregnancy weight gain control is a frequently used alternative. Some studies associated metformin with a slight increase in the risk of prematurity and lower birth weight. The aim of this study was to evaluate maternal and neonatal outcomes according to the pharmacological therapy used (metformin versus insulin). **Methods:** A retrospective analysis of singleton pregnancies with GD with delivery in our hospital (04/2015 - 07/2019) was conducted. Those without pharmacological treatment were excluded. Maternal characteristics, pregnancy outcomes and neonatal outcomes were assessed. Metformin-controlled GD (group 1) and insulin-controlled GD (group 2) were compared individually and as a whole. Two new dichotomic variables were created, classified as positive when any one of the maternal (preterm delivery, hypertensive complications, 3rd degree laceration, cesarean section) or neonatal (macrosomia, large for gestational age (LGA); small for gestational age (SGA); apgar index (AI)). **Results:** 137 pregnant women were selected: 51 in group 1 and 76 in group 2. No differences were found in maternal characteristics between groups. No differences were found in hypertensive complications of pregnancy, type of delivery, labor induction rate, urgent/emergent cesarean section, birth trauma, birth weight, rate of macrosomia or LGA or composed maternal outcomes between groups. Prematurity rate was higher in group 2 ($p=0.011$). When considering a composed neonatal outcome, group 2 had worse outcomes ($p=0.025$), with no differences reported in a composed maternal outcome. **Conclusion:** In our study, individual maternal and neonatal outcomes were similar between groups. However, considering the composed adverse neonatal outcomes, pregnant women with GD treated with insulin had worse outcomes. In this way, our results, although using a small sample, don't allow to confirm previous studies.

P038

AN UNUSUAL CAUSE OF ACUTE ABDOMINAL PAIN IN A PREGNANT DIDELPHIC UTERUS - A CASE REPORT

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Problem statement: Acute abdominal pain is an uncommon complaint during pregnancy and can have a variety of causes some of which might not be suspected due to the gravid state of the uterus. The patient we present is a 30 year old primigravida with a previously diagnosed didelphic uterus who presented to the obstetric emergency area at 23+3 weeks of gestation with severe abdominal pain. She had had an uneventful pregnancy till then and on admission was complaining of left sided flank pain of a colicky nature. An MRI performed while she was trying to conceive, had revealed a didelphic system with two uterine cavities, two cervixes and a vaginal septum. **Methods:** A physical examination performed on admission was unremarkable and both cervixes were closed on vaginal assessment. Routine blood and urine investigations were normal and the pain initially settled with simple analgesics. Renal sonography at this stage showed marked hydronephrosis on the left but no evidence of stones. Twenty four hours later the pain increased in severity and frequency leading to the suspicion of preterm labour and hence the neonatal team was alerted and the couple counselled about the probable poor outcome of delivery at this gestation. **Results:** Since the pain did not settle even when opiates were administered, an urgent MRI was organised and this finally revealed the diagnosis. Left sided



calyceal rupture with an associated urinoma was visible. A stent was inserted to relieve the pain and this led to an immediate resolution of the symptoms. The patient make an uneventful recovery and had an elective Caesarean section at over 37 weeks when she was delivered of a healthy girl. The stent was removed after six weeks and the patient remains well to date. **Conclusion:** This case demonstrates the importance of bearing in mind the possibility of associated renal anomalies in any patient with a history of congenital anomalies of the genital tract. It also shows the superiority of MRI when diagnosing rare causes of acute abdominal pain in pregnancy.



P039

CHROMOSOMAL ASSOCIATIONS AND GENOMIC INSTABILITY IN IDIOPATHIC RECURRENT PREGNANCY LOSS (RPL)

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Problem statement: Death of infants in uterus or at birth has always been a devastating experience for mothers. The emotional issues surrounding pregnancy loss become magnified exponentially when miscarriage occurs on repetitive basis. Stress plays a very important role in this unexplained RPL cases. Stress is being linked with many life-style related disorders such as diabetes, hypertension, cardiovascular diseases etc. but very few studies have been done to explore the role of stress on RPL.

Methods:

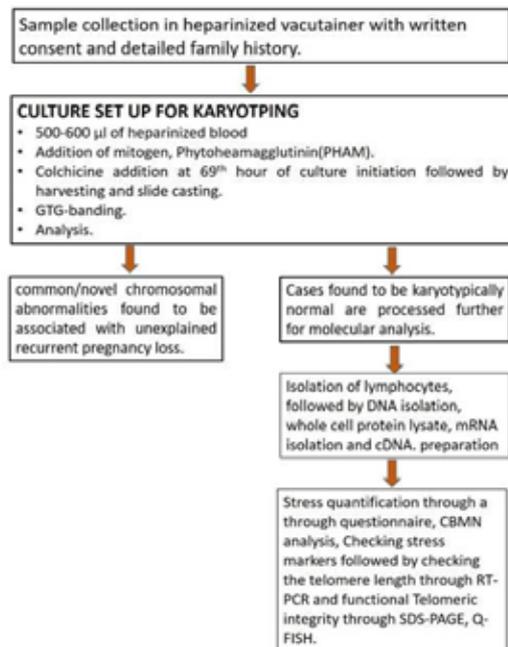


Figure 1: Schematic diagram showing work flow of the study

Results: By performing basic GTG karyotyping analysis, we identified various structural or numerical chromosomal anomalies in the RPL patients. We have screened a couple of novel translocations responsible for RPL, which were not reported earlier. We have observed that a huge number of individuals with RPL in our cohort are reported normal in karyotype, and additionally the reason for their recurrent miscarriage is unknown. We further checked these individuals for their background genomic instability

and we found that few of these individuals have high background of genomic instability as compared with the control samples. Further we checked the telomeric integrity of the patients with high genomic instability, few of them showed loss of telomeres (T/S ratio, by RT-PCR), we performed Q-FISH analysis on the same samples and have found loss in telomeric signals, also we have performed western blot analysis of some of the key players of the shelterin components and found low level of expression of these proteins in the RPL patients. From the above studies we observed that loss of telomeres were very evident in some of the patients which we have confirmed on various platforms. **Conclusion:** We have shown that apart from numerical or structural chromosomal anomalies, loss of telomeres also may play a critical role in promoting RPL. This work will lead to identification of few biomarkers for unexplained RPL. This will help in better management of the couple experiencing repeated trauma of RPL and will aid them towards better possibility of conception. **Disclosure of interest:** No conflicts of interest. **Abbreviations:** RPL – Recurrent pregnancy losses; GTG – G-banding by trypsin and giemsa; PNA-FISH – Peptide nucleic acid-fluorescent in-situ hybridization.

P040

INCIDENCE OF ASYMPTOMATIC BACTERIURIA IN A LOCAL PREGNANT POPULATION

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Problem statement: Asymptomatic bacteriuria occurs in 2 to 10% of pregnancies. Clinical guidelines recommend routine antenatal screening of asymptomatic bacteriuria due to its association with increased risk of pyelonephritis, preterm labor and low birth weight. Routine screening of asymptomatic bacteriuria is not practiced in our institution. There is no local study on the prevalence of asymptomatic bacteriuria. This is a pilot study that aims to define the local incidence of asymptomatic bacteriuria and its associated adverse outcomes in our population. **Methods:** This is a retrospective study in a tertiary obstetrics and gynecology center in Singapore between October 2017 and August 2018. Urine dipstick for albumin, urine microscopy and urine culture with sensitivity were performed. A positive urine culture was defined when more than 10⁵ bacteria per milliliters is present in a single voided midstream urine. Outcomes of interest were low birth weight, preterm delivery and admission for pyelonephritis. **Results:** Fifty patients had antenatal urine studies performed during this period. Asymptomatic bacteriuria was detected in 6% (n = 3). None of these cases had complications of low birth weight, preterm delivery or admission for pyelonephritis. The BMI of patients with asymptomatic bacteriuria was found to be statistically significantly higher than the group without (28.7 ± 1.7 vs 22.9 ± 4.7 kg/m², p = 0.04). There was no significant difference in outcomes between the group with asymptomatic bacteriuria and the group without. **Conclusions:** The incidence of asymptomatic bacteriuria is consistent with international data. There were no adverse outcomes detected among these patients.

P041

FETAL PULMONARY VENOUS FLOW IMPEDANCE IN PREGNANCIES WITH PLACENTAL INSUFFICIENCY-RELATED OLIGOHYDRAMNIOS

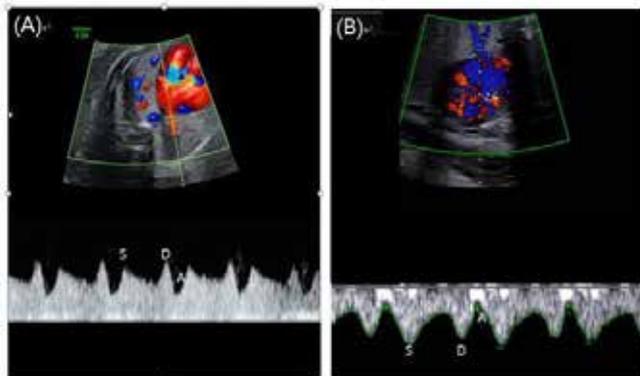
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Problem statement: In placental insufficiency, alteration of left heart compliance occurs, with consequent increased placental vascular impedance. Pulmonary vein flow patterns could reflect

altered left atrial pressure. It is known that fetal pulmonary venous flow impedance was higher in women with placental insufficiency-related intrauterine insufficiency. The aim of this study was to determine whether fetal pulmonary venous pulsatility index (PVPI) was greater in women with placental insufficiency-related oligohydramnios than in women with adequate amounts of amniotic fluid during the third trimester. **Methods:** PVPI and the umbilical arterial systolic/diastolic (S/D) ratio were measured using Doppler echocardiography in 130 pregnant women between 28 and 39 gestational weeks. Two measurements were obtained for each fetus. The average value of two measurements was used. Two measurements were obtained for each fetus by single expert obstetrician. The average value of two measurements was used. Pregnant women were divided into two groups according to the amount of amniotic fluid. PVPI and umbilical arterial S/D ratio were compared between 19 pregnancies with oligohydramnios and 111 with adequate amniotic fluid. **Results:** The mean gestational age and estimated fetal weight were not significantly different between the two groups. The maternal age was older in the oligohydramnios group (36.89 ± 5.88 versus 34.06 ± 4.79 ; $P = 0.23$). But it was statistically insignificant. Intraclass correlation coefficient of PVPI was 0.982. The mean PVPI was significantly higher in the oligohydramnios group than in the control group (1.13 ± 0.22 versus 0.89 ± 0.31 ; $P 0.001$). There was no significant difference in umbilical arterial S/D ratio between the groups ($p = 0.142$). **Conclusions:** This result suggests that PVPI could be used as an early diagnostic marker of fetal deterioration in placental insufficiency-related oligohydramnios.

Figure 1. (A) Doppler tracing of a pulmonary vein flow obtained in a fetus with adequate amniotic fluid. Pulsatility index (PI) is 0.76. (B) fetus with oligohydramnios. PI is 1.21. S, systolic; D, diastolic; A, end-diastolic



There is no disclosure of interest.

P042

USEFULNESS OF FETAL PULMONARY VENOUS IMPEDANCE TO PREDICT LOW BIRTH WEIGHT INFANTS

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Problem statement: Fetal pulmonary vein impedance measured in late pregnancy is an indicator of left heart compliance. It is known that pulmonary venous pulsatility index (PVPI) is increased in the growth restricted fetuses compared to the normal weighted fetuses using ultrasound in late pregnancy. However, there is no study on the correlation between PVPI in late pregnancy and birth weight. Our aim is to determine whether PVPI measured in late pregnancy can predict low birth weight infants at birth. **Methods:** This study was conducted on pregnant women who measured PVPI at Haeundae Paik Hospital, Inje University between September 2017 and May 2019. PVPI was measured after 25 weeks gestation.

Correlation of maternal age, parity, gestational weeks and percentile of estimated fetal weight (per-EFW) at the time of PVPI measurement, PVPI, maternal HTN and DM, gestational weeks of delivery and percentile of fetal birth weight (per-FBW) was analyzed. Univariate and multivariate regression analysis were performed. In addition, the receiver operating characteristic (ROC) curve was performed to assess the sensitivity and specificity for low birth weight (LBW) infants. All statistical analyses were carried out using SPSS 24.0 and MedCalc 11.6.0 and p values less than 0.05 was considered statistically significant. **Results:** A total of 129 people were included in the study. The mean maternal age was 34.6 year old ± 5.0 (22.0~45.0). the mean gestational age of PVPI measurement was 32.5 weeks ± 3.4 (25+0~38+0). The mean gestational weeks of delivery was 37.2 weeks ± 2.0 (27.0-40.0). The number of LBW infants was 37 (28.7%) at birth. Significantly related factors to per-FBW were per-EFW ($p=0.001$) and PVPI ($p=0.004$) in multivariate regression analysis. Area under the ROC curves of per-EFW and PVPI to predict LBW were not significant different (0.911 versus 0.890, $P=0.624$). The cutoff of PVPI to predict LBW was 1.13 and it has 70.27% of sensitivity, 92.39% of specificity, 78.79% positive predictive value and 88.54% of negative predictive value. **Conclusion:** PVPI, measured after 25 weeks of gestation, can predict LBW infant at birth. There is no disclosure of interest

P043

ANAEMIA DURING PREGNANCY IN SOUTH AFRICA: ESTABLISHING THE CAUSE

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Problem Statement: A significant cause of morbidity and mortality during pregnancy is maternal anaemia. The causes of anaemia are varied, but in resource limited settings and certain geographic locations, its effects and sequelae are public health challenges. South Africa, a low to middle income country, is plagued by a quadruple burden of disease, with high maternal mortality ratios influenced by an epidemic of hypertensive disorders of pregnancy, HIV, tuberculosis and neglected tropical diseases. This is most prevalent in the Black population whose majority have low socio-economic status. Poor nutrition, chronic infections, lack of access to health care facilities and poor compliance with micronutrient supplementation all contribute to maternal anaemia. The aim of this study was to establish the prevalence, and type of anaemia affecting a pregnant South African population. **Method:** Six hundred pregnant women were recruited into the study. Haematological (full blood count and iron studies) and demographic data was collected from participants and hospital records. Stool and urine samples were collected and analysed for soil transmitted helminths and schistosomiasis. A Hb cutpoint of 10.5 g/dl was used to define anaemia in any stage of pregnancy. **Results:** The prevalence of anaemia in the study was 41%. All participants reported taking standard issued iron supplementation. The majority of cases were normocytic and normochromic suggestive of an infective cause or chronic condition. Most participants were mildly anaemic (84%) while 14% was moderately anaemic and 2% were severely anaemic. Participants living with HIV were at greater risk of being anaemic. Four percent of the study population were infected with soil transmitted parasites and 7% had schistosomiasis (*S. haematobium*). **Conclusion:** Anaemia is very common in the South African pregnant population. While iron supplementation may improve anaemia in pregnant women, universal prophylactic treatment for anaemia may not be appropriate without first establishing the type and cause of anaemia in this vulnerable population. Furthermore, indiscriminate

iron supplementation may have adverse pregnancy outcomes by counteracting normal physiological sequestration of iron in the face of infection. Health care providers should establish the cause of anaemia to reduce maternal and fetal morbidity and mortality

P044

ANTENATAL DIAGNOSIS OF ABSENCE OF SEPTUM PELLUCIDUM

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Problem statement: The absence of septum pellucidum (ASP) is a rare cerebral disease. The prenatal counseling can be difficult because of unknown neurological outcome. **Methods:** Description of 4 cases of septal absence diagnosed antenatally between 2013 and 2016 and confirmed after birth. **Results:** Of the 4 cases, 2 were diagnosed during the morphological ultrasound examination, at 22 and 22+5 Weeks of Gestation (WG) and 2 were detected later in pregnancy, at 27+5WG and 32WG, due to technical problems (uterine fibroids and maternal obesity, respectively). All patients had an amniocentesis and a cerebral fetal MRI at 32WG. In case 1 (see Table) the MRI showed a hypointense signal on the pituitary, in case 4 there was a callosal agenesis and perisylvian polymicrogyria and in the two other cases the ASP appeared isolated. None of the patients requested a termination of pregnancy, and all delivered at full term. After birth, the children were followed-up with neurologic and endocrine evaluations. Of the 4 cases of ASP, one was diagnosed with septo-optic dysplasia (SOD) after birth (case 1), one with bilateral opercular dysplasia (case 4) and the other 2 were confirmed to be isolated (cases 2 and 3). At the last evaluation, the child with SOD has a dysexecutive syndrome, and the child with bilateral opercular dysplasia has a left monoparesis and language delay. Both children are receiving an adapted academic education. The children with isolated ASP have a normal neurological development. **Conclusion:** ASP can be diagnosed during routine second trimester morphological ultrasound screening. The prenatal work-up should include an amniocentesis for caryotyping and CGH array and a fetal cerebral MRI in order to access whether the ASP is isolated or not. The antenatal diagnosis is reassuring when the ASP is isolated, but still carries a 20% risk of SOD which may be diagnosed postnatally. This should be mentioned during prenatal counseling.

P045

CURRARINO SYNDROME - A PRE AND POST NATAL DIAGNOSIS CORRELATION: CASE REPORT AND LITERATURE REVIEW

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Problem statement: Currarino syndrome is a rare autosomal dominant disorder and affected subjects are at-risk of serious complications, leading to significant morbidity and mortality. This

disease is formed by a Currarino triad: sacral anomalies, presacral mass and an anorectal malformation; it exhibits variable expressivity and many heterozygotes are asymptomatic. Prenatal ultrasonography may identify the presence of a presacral mass, although it is not an accurate or complete investigation for someone at 50% risk. **Methods:** We discuss a case report of Currarino Syndrome with an early diagnosis through imagiological study during pregnancy for prenatal diagnostic purposes. **Results:** First appointment of 24 years-old healthy primigravida with a suspicion of spina bifida occulta at 21 weeks. Obstetrical ultrasounds and the first fetal magnetic resonances presented first a closed sacrococcygeal *dysraphism* without meningocele and cerebral alterations like Arnold-Chiari malformations; at 29 weeks, a small meningocele with lowered medullary cone appeared during second fetal magnetic resonance. She had a term vaginal delivery, with a female newborn, 3315gr, Apgar score 9/9/10 and a perianal and endorectal polypoid mass. A magnetic resonance was performed which illustrated: a partial sacral agenesis; anterior myelomeningocele; rectosacral mass; anchored medulla (cone in L4). After these results neurosurgical team analyzed the fetal resonance and discovered similar neural tube defects in the asymptomatic mother: sacral agenesis and anterior meningocele. Afterwards, we had an early Currarino Syndrome diagnosis and performed a neurosurgery to allow the medullar distal release and filum terminal section. The child has 1 year and a normal physical and psychomotor development, with symmetric leg movement and a normal intestinal transit. She will be monitored by a multidisciplinary team to evaluate her evolution, specially locomotion and sphincter control. **Conclusion:** Despite the difficulty of doing a prenatal diagnosis of this syndrome, whenever we detect a presacral mass during the obstetric ultrasounds, we advise the inclusion of Currarino syndrome in the differential diagnosis of neural tube defects. We should also expand genetic counselling and promote screenings, allowing identification of asymptomatic heterozygotes. The recognition of at-risk subjects should lead to better planning of pregnancies and appropriate management of affected children at birth.

P046

IODINE SUPPLEMENTATION DURING PREGNANCY AND NEONATAL OUTCOMES

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Problem statement: Iodine is essential for healthy thyroid function. An increase in its requirement during pregnancy puts women with low preconception iodine reserves at risk of pathological thyroid dysfunction and the child at risk of neurodevelopmental delay. Global guidelines recommend considering iodine supplementation during pregnancy and lactation. However, the effect of iodine supplementation or fortification on prenatal and postnatal growth is unclear and the existing literature suggests that successful salt iodization programmes can meet the needs of population groups susceptible to iodine deficiency, specifically pregnant women. The aim of this study is to assess the effects of iodine supplementation during pregnancy compared to a diet with iodised salt on prenatal and postnatal somatic growth of the fetus or newborns. **Methods:** Online search of Pubmed, DARE and Cochrane Library databases. We used MeSH terms for search in PubMed: "iodine", "pregnancy" and "newborn". Selection criteria: guidelines, randomised controlled trials (RCT) and systematic reviews that assessed the benefits on children's outcome of supplementation with iodine or iodized salt in the preconception period or during pregnancy. The articles' date of publication was restricted to the past 10 years and only studies in Humans were selected. No language restrictions were used. **Results:** 138 records were examined. After screening the titles and abstracts of all the records and removing the



duplicates, we excluded 127 search results, as they were ineligible according to the pre-defined criteria. Finally, we included three systematic reviews and two randomised controlled trials. A Cochrane review suggests that there were no clear effects of supplementation on maternal or child outcomes and the RCTs demonstrated that iodine supplement does not have a statistical significance impact on adverse neonatal outcomes compared to no-supplement. However, these results must be interpreted with caution due to various limitations in study design and analysis including small sample size. **Conclusion:** Iodine supplementation improves some maternal thyroid indexes and may benefit the cognitive function in children. However, these findings, with low-quality evidence, suggest that pregnancy iodine supplementation usage needs to be evaluated and updated to clarify and quantify the risk/benefits of iodine supplementation in regions previously believed to be iodine sufficient.

P047

CHORIONICITY IN TWIN PREGNANCIES – OBSTETRIC AND NEONATAL IMPACTS AT THE MOMENT OF DELIVERY

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Problem statement: Multiple pregnancies represent about 3% of all pregnancies. Twin pregnancies are the most frequent and can be classified as monozygotic (1/3) or dizygotic (2/3). Morbidity and mortality in multifetal pregnancy is higher than unifetal and change according to chorionicity. Compared with dichorionic twins, monochorionic twins have a higher frequency of fetal and neonatal mortality, as well as morbidities, such as fetal and congenital anomalies, prematurity and fetal growth restriction. This study aims to assess the differences in maternal and neonatal outcomes based on chorionicity. **Methods:** Retrospective analysis of all twin pregnancies delivered at Hospital de Braga between January 2004 and June 2019. Triplets and stillbirths were excluded. 621 cases were analysed for demographic data, chorionicity, gestational age at delivery, pregnancy complications, delivery route and perinatal morbidity. Using SPSS Statistics version 23.0, a comparative analysis between groups was done, evaluating possible associations. **Results:** 456 (73,4%) were dichorionic and 165 (26,6%) were monochorionic pregnancies. From the data analysis, mean maternal age proved to be significantly higher at the dichorionic pregnancy group: 31,86 vs 31,44 years (p value = 0,040). Difference was observed between monochorionic and dichorionic pregnancies, respectively: regarding mean gestational age at delivery 34,63 vs 35,21 weeks (p value 0,001); weight of first fetus 2187,23 vs 2300,93g (p value = 0,001); and weight of second fetus 2121,39 vs 2226,22g (p value = 0,005). Concerning the route of delivery, 69,1% of monochorionic and 61,0% of dichorionic were caesarean section (p value = 0,117). Regarding APGAR score and birth weight discordance (12,90% in monochorionic vs 12,16% in dichorionic; p value = 0,799) the results obtained weren't statistically significant. **Conclusion:** Despite the literature associating monochorionic pregnancies with worse neonatal outcomes, APGAR did not show worse results in newborns who shared the same placenta. However, this investigation also found decreased weights in these newborns, which may be explained by the lower gestational age. In this study, monochorionic recorded the highest caesarean section rates, which may suggest greater maternal and fetal morbidity in this type of pregnancy, however, comparing with dichorionic pregnancies, the difference in the mode of delivery was not statistically significant.

P048

MICRORNA ANALYSIS OF DESIDUA DERIVED MESENCHYMAL STEM CELLS FROM PREECLAMPSIA PATIENT

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Problem statement: Preeclampsia (PE) is a pregnancy specific disorder and it is characterised by hypertension (blood pressure \geq 140/90 mm-Hg) and proteinuria (300 mg/24h) that develops after 20 weeks of gestation. PE, which effects approximately 5% of pregnant women worldwide, causes maternal-fetal morbidity and mortality. Although the mechanism of the disease is still not fully understood, it is thought that immune system imbalances at the maternal-fetal interface may be among the causes of the pathogenesis of PE. The aim of this study was to determine miRNA expression levels in decidua-derived mesenchymal stem cells (dMSCs) obtained from preeclampsia patients and healthy pregnant women. Thus, it is also aimed to make potential biomarker studies and to contribute to the pathogenesis of PE. **Methods:** Decidua samples were collected from total 14 individuals which are 7 preeclamptic and 7 healthy pregnant women. The number of cells was increased by MSC culture and then MSCs were sorted using specific cell surface markers to obtain pure MSCs. After isolation of total RNA from MSCs and cDNA synthesis; let-7b-3p, let-7f-1-3p, miR-191-3p, miR-550a-5p, miR-33b-3p and miR-425-3p were used for miRNA analysis and U6 snRNA was used for normalization of the samples. MiRNA analysis was performed by Eva Green based droplet digital polymerase chain reaction (ddPCR) method. Statistical analysis was done using Mann-Whitney test and ROC analysis. **Results:** As a result of the analysis, it was seen that the levels of hsa-miR-33b-3p significantly increased [Area Under Curve (AUC): 0.93, fold change: 4.5] in dMSC of PE patients compared to healthy controls. However, let-7b-3p, let-7f-1-3p, miR-191-3p, miR-550a-5p, and miR-425-3p were not considered significant as a result of the statistical analysis. **Conclusion:** Within the scope of this research, miR-33b-3p was significantly increased in PE patient and considered as a potential biomarker for PE. MiR-33b-3p has not previously been studied in dMSCs from PE patients, and this is the first in the literature. Although our results are very valuable, these results should be confirmed by further studies. **Disclosure of Interest:** All authors declare that they have no conflict of interest.

P049

DETERMINING PRETERM LABOUR THROUGH CERVICAL BIOMETRICS AND FETAL FIBRONECTIN

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Problem statement: The main problem for fetal morbidity and mortality in twenty first century is still the premature delivery. It's very highly searched how to predict which women will give preterm labour. The most widely used method of ultrasound cervical length measurement can determine the patients at highest risks, but there



is no stable cutoff. Therefore were found some clinical biomarkers in the cervico-vaginal fluid – one of them is the fetal fibronectin (fFN). The aim of the study was to evaluate the predictive value of measuring the cervical length plus a quality test of fFN. **Methods:** A prospective, cross-sectional study was designed, dividing pregnant women between 24 and 32 weeks: Group A patients with clinical symptoms of preterm birth and Group B patients without symptoms. All patients that were included had a test of fFN performed followed by a transvaginal measurement of the cervix. The results from the fFN were blinded, all patients received same management, respectively, the patients from Group A were administered tocolytic and steroid therapy. The pregnancy outcome was collected to be analyzed. **Results:** 63 patients took part in the research. All patients from group A that were positive on fFN and had shortening of the cervix, delivered in 2 weeks no matter the strong tocolytic. The results from Group B show false positive predictable value. The test showed high predictive value when negative result. When applying the used biochemical test in combination with cervical biometrics, the risk of preterm can be determined by more than 95% of the cases. **Conclusion:** The modern obstetrics cannot afford to skip the problem of the premature. Even so, the currently used methods for prediction are showing unsatisfactory predictive efficacy if used one by only. What we really need is to either find new methods for screening or improve those we have. The results from many studies are proving that the more markers are combined in one protocol, the better prognosis, the bigger the sensitivity and specificity, the best pregnancy outcomes. **Acknowledgements:** This research was funded by Medical University – Plevan through research project D1/ 2018.

P050

IMPLICATIONS OF EXTREME WEIGHT LOSS DUE TO HYPEREMESIS IN PREGNANCY

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Introduction: Hyperemesis causes poor weight gain in pregnancy sometimes causing gestational weight loss (GWL) in extreme cases. A GWL of 15% of booking weight is exceptionally rare and is classed as extreme weight loss. We present a lady who lost 20.5% of her booking weight. **Case Summary:** A 29-years-old G6P3 lady with previous vaginal deliveries, gestational hypertension and SGA babies was treated for pulmonary tuberculosis in childhood. Her booking weight was 90.5Kgs and BMI 30.5 and she was started on daily aspirin. She vomited throughout her pregnancy and developed gestational diabetes that was diet-controlled. She was hospitalised at 31+weeks and 33+ weeks gestation for excessive vomiting when her ALT was elevated, and abdominal ultrasound showed thickening of gall bladder wall with no obstructive features. She was managed conservatively with fluids, antiemetics, IV Pabrinex and dietician started her on Fresubin energy drinks. She lost 18.6Kg of her body weight by 32+weeks gestation. She was given 2 doses of betamethasone as her fetal growth was on 10% centile that dropped to 5th centile at 35+weeks. Her membranes ruptured at 35+6 weeks and she was induced to labour at 37 weeks and quickly laboured delivering a baby boy weighing 2440gm in good condition. Both were discharged on D2 postnatal. **Discussion:** Meta-analysis of case reports suggests that GWL is associated with high odds of SGA, preterm births and fetal anomalies. RCOG Green-top recommends inpatient management for mothers with 5% GWL due to hyperemesis. Mums may develop a variety of complications. **Conclusions:** There is no nutritional guidelines available for hyperemesis. Referral to dietician and early consideration of parenteral supplement needs to be explored. MDT input including psychological support is essential, and caregivers in this case needed to address her diabetes alongside chronic

starvation with ketosis to avoid diabetic ketoacidosis. There is role of pulsed steroid therapy in intractable hyperemesis however her co-existing gestational diabetes made that treatment decision difficult. This case highlights the need for regular maternal weight monitoring at every antenatal visit for mums suffering from hyperemesis. Such cases of significant GWL should be followed-up to study long term effects on mum and baby.

P051

EFFICIENCY OF EXOGRAPHIC EXAMINATION OF FETOPLASENTAR SYSTEM IN WOMEN WITH UTERINE SCAR AFTER MYOMECTOMY

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The goal was study of informativeness exographic examination of fetoplasentar system in women with uterine scar after myomectomy. **Materials and methods of research:** In order to study the frequency of myomectomy, operating instructions, intra- and postoperative complications during the period 2008–2014, in gynecological departments of the Central Oil Workers Hospital, birth center of the Nakhchivan Autonomous Republic and several private clinics (Real ST Center, Baku Medical Plaza, and .s) it was analyzed 119 hospitalized women after myomectomy. The analysis and survey of these women was performed 2-3 years after reconstructive plastic surgery to analyze the long-term results. The following research methods were used: Nationwide examination; Clinical and laboratory diagnostic methods; Exographic examination of the fetoplasentar system, including ultrasound examination, dopplerometric examination and fetal anesthesia; Statistical analysis. **Results and their discussion:** Premature aging of 8 (26.7±2.4) pregnant women with chronic pyelonephritis complications (III degree of maturity before 37th week of pregnancy). This is manifested by the presence of irregularly shaped, non-homogeneous exogenous zones on the hollow plate. In addition, in the third trimester of pregnancy in 3 women (10±1.6) with severe acute pyelonephritis, placenta I was diagnosed with late pregnancy, indicating that the placenta was late. The placenta thickness was 2.4±0.05 sm in women from I group and 2.7±0.02 sm, from II group (p0.001). In most cases, low placental (17 (36.2±7.01%)) and 16 (55.2%), in both groups 1 (2.12±2.1%) and 5 (17.2±5), respectively. Prevalence of placenta in the pregnant woman was 7.01% The prevalence of uterine-placental and / or fetal blood flow was found in all women in both groups, 14.9±5.19% in group I, 6 in group II, 9±4.71%, grade II disorder was 31.9±6.8 in Group I, 27.6±8.3% in Group II, Critical violations (III degree) were reported in I group 25 (53.2±7), 28%) and 19 (65.5±8.83%) in the II group. **Findings:** Using dopplerometry allows USM to predict the growth rate of the node and the risk of developing a stroke.

P052

PREGNANCY OF UNCERTAIN VIABILITY: IS PREDICTION BETTER THAN STRATEGY?

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Problem statement: Pregnancy of Uncertain Viability (PUV) is an intra-uterine pregnancy that does not present the ultrasonographic features to confirm viability or miscarriage. Making the correct diagnosis is non-negotiable. This necessitates follow-up which results in anxiety specific to uncertainty. The aim of the study was to investigate PUV prediction and ultrasound follow-up strategies to optimize PUV management. **Methods:** A prospective quantitative design was adopted. Women diagnosed with PUV were followed until a definitive diagnosis was reached. The predictive aspect analysed a bleeding score, ultrasonic parameters



and Human Chorionic Gonadotropin as well as progesterone levels in relation to PUV outcome. The predictive factors were analysed individually and in combination to devise a predictive model. The strategic aspect compared findings at weekly intervals to identify the ideal follow-up strategy. **Results:** 43 women diagnosed with PUV were recruited, of whom 41.9% miscarried. Pregnancy loss was found to be statistically associated with vaginal bleeding ($p=0.003$), presentation at a later gestational age ($p=0.000$) and lower progesterone levels ($p=0.000$). Viable gestation sacs were found to grow at a daily rate of 1.161mm while the non-viable mean sac growth was 0.769mm/day. A predictive model using progesterone, bleeding and Mean Sac Diameter had a sensitivity of 72.2% and a specificity of 88% (AUC 0.81). The strategic arm of the study showed that 79% of cases had a definitive diagnosis by 7 days. **Conclusions:** A predictive model for PUV although suitable does not provide a definitive diagnosis. The 7 day waiting strategy provides a definitive diagnosis in 79% of PUV obviating the need to wait longer. This strategy may be evaluated further with potential for optimizing PUV management.

P053

PERINATAL MORTALITY AND MORBIDITY IN FINNISH TWINS

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Problem statement: Twin pregnancies carry several risks for the mother and the offspring. The incidences of all pregnancy and delivery complications are higher with twins compared to singletons. Coming last, twin B faces more risks than twin A, but the main mutual risks are related to prematurity with possible longlasting effects for the whole family. We conducted this study to establish the changes in perinatal morbidity and mortality in twin pregnancies in Finland, an issue not previously reported to this extent. **Methods:** This is a register study focusing on the perinatal outcomes of twin pregnancies in Finland. All 23 498 twin pregnancies during 1987-2014 were included. Data were collected from the National Medical Birth Register and the Hospital Discharge Register (National Institute for Health and Welfare) and included information on twin pregnancies, deliveries, perinatal mortality and morbidity. For statistical analysis, binomial regression analysis and crosstabs were performed. **Results:** There were 46 363 liveborn and 633 stillborn twins in Finland during the study period. Perinatal mortality decreased significantly from 45.1 to 6.5 per 1000 for twin A, and from 54.1 to 11.9 per 1000 for twin B. The higher perinatal mortality for twin B remained throughout the study period. Asphyxia, respiratory distress syndrome, need for antibiotics and Neonatal Intensive Care Unit stay were also all markedly more common in twin B. On the other hand, early neonatal mortality did not differ between twins, and has decreased in both. **Conclusion:** In Finland, perinatal and early neonatal mortality in twins decreased significantly during 1987-2014 and are nowadays extremely low. Despite intensive antenatal follow-up, twin B still experiences more complications. The outline provided may be used to further improve the monitoring and thus perinatal outcome of twins, especially twin B. Disclosure of Interest: None.

P054

INCIDENTAL MYOMECTOMY AT TIME OF VAGINAL DELIVERY CONTRIBUTING TO POSTPARTUM HEMORRHAGE: A CASE REPORT

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Problem statement: Uterine leiomyomas are known to cause complications in pregnancy, including malpresentation, intrauterine growth restriction, preterm labor, and postpartum hemorrhage. Large submucosal leiomyomas may have higher complication rates. In the postpartum period, leiomyoma have been associated with postpartum hemorrhage due to uterine atony. The proposed mechanism of atony is the limited contractile ability of the uterus around the intrauterine mass. Hemorrhage from uterine atony can increase the use of uterotonic agents, blood transfusion rates, and surgical procedures including hysterectomy. **Methods:** A 44-year-old gravida 4 para 2-0-1-2 was admitted with premature rupture of membranes at 40 2/7 weeks. Her medical history was significant for advanced maternal age and a known large posterior leiomyoma, measuring nine centimeters on ultrasound (Figure 1). Her labor was induced with oxytocin and she delivered a viable female infant approximately 24 hours after admission. The third stage of labor was completed in eight minutes with the spontaneous delivery of an intact placenta. The uterine fundus was firm and 60 units of intravenous oxytocin was routinely administered. A thorough evaluation revealed no vaginal or cervical lacerations, however, active bleeding continued from the lower uterine segment. **Results:** Vaginal delivery in this patient was complicated by lower uterine segment atony leading to postpartum hemorrhage caused by her large submucosal fibroid. The patient was given multiple uterotonic medications without improvement. During a manual uterine sweep for suspected retained products of conception, a submucosal leiomyoma was incidentally extracted. Phenylephrine was administered while intravenous fluid and blood product administration continued. Hemostasis was achieved with placement of a Bakri balloon. Her hematocrit was 40.0% on admission and decreased to 26.0% on post-partum day one following her blood product transfusions. She was discharged to home on postpartum day three in stable condition after a short intensive care unit admission. Histopathologic evaluation confirmed an epithelioid leiomyoma weighing 119 grams and measuring 7.0 x 7.0 x 5.0 centimeters. **Conclusion:** This case reaffirms the association of large (greater than five centimeters) submucosal leiomyomas with severe postpartum hemorrhage. The use of balloon tamponade in such situations may contribute to hemostasis and avoidance of postpartum hysterectomy. Financial Disclosure: none

Figure 1: Large submucosal leiomyoma



A: Submucosal leiomyoma measuring 6.03 centimeters in diameter in the lower uterine segment at 15 3/7 estimated gestational age
B: Submucosal leiomyoma measuring 9.10 centimeters in diameter in the lower uterine segment at 20 5/7 estimated gestational age

P055

UTERINE INVERSION PRESENTING AS A VAGINAL SPOTTING AT POSTPARTUM: A CASE REPORT

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Uterine inversion is an abnormal protrusion of internal surface of relaxed uterus through the vaginal orifice. Acute inversions occurring immediately, or within 24 hours post-partum are the most common type. Chronic Uterine Inversions (CUI) occurring more than four weeks after the delivery are rare identities. Chronic nature of these inversions makes the restoration of the normal position of the uterus per vaginal difficult contrary to acute inversions which can be repositioned more easily. A 34-year-old lady was initially admitted to our hospital with postpartum bleeding caused by uterine inversion. Obstetricians explained that her uterus had inverted when attached placenta manually removed and then reduced, but placenta might be remained approximately 70~80%. An abdomen CT ruled out active bleeding and uterus inversion, and confirmed that there were no abnormalities on uterus. There was 6.12 cm depth mass in endo-metrium considered retained placenta by transvaginal ultrasound. Although she received transfusion, the mother was discharged without any particular sequelae. She revisited after 4 weeks and said that there was a vaginal spotting continuously. We decided to remove retained placental materials by dilatation and curettage of endometrium. During operation, on vaginal examination, a 3cm x 4cm mass, occupying the cervix and extending in the vagina was felt. Cervix was thinned out behind the mass. Uterine Inversion was made and patient was planned for surgical repair. After the operation, the patient was discharged without complications. Differential diagnosis of chronic uterine inversion should always be kept in mind even if patient present with asymptomatic or symptomatic vaginal mass in postpartum. Key words: uterine inversion, postpartum

P056

THE EFFICACY OF THIRD-GENERATION CEPHALOSPORIN PLUS METRONIDAZOLE VERSUS THIRD-GENERATION CEPHALOSPORIN PLUS CLARITHROMYCIN IN NEONATAL OUTCOMES AND OXIDATIVE STRESS MARKERS FOR WOMEN WITH PRETERM PREMATURE RUPTURE OF MEMBRANES

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Problem statement: The purpose of this study is to compare neonatal outcomes and oxidative stress markers of preterm premature rupture membranes (PPROM) treated with generation cephalosporin plus metronidazole (regimen A) generation cephalosporin plus clarithromycin (regimen B). **Methods:** The present study included patient with singleton pregnancies with PPRM at earlier than 34 gestational weeks who admitted to the Chonnam National University, Gwangju, Korea between February 2007 and December 2015. Latency period, neonatal outcomes and oxidative stress markers (including oxygen radical absorbance capacity, malondialdehyde, protein carbonyl, and interleukin-6) were compared between two groups. **Results:** Latency period from PPRM to delivery did not differ between the groups (11.0 ± 13.1 vs 11.5 ± 8.6 , $p=0.791$). However there were no significant differences in rate of latency period longer than days. More women were delivered after 48 hour in regimen B group than regimen A group (83.6% vs 94.7%, $p=0.022$). However there were no significant differences in rate of latency period longer than days. There was no significant difference in oxidative stress markers after the administration between regimen A and B. **Conclusion:** Our results show that there was no on the latency period and improvement of neonatal outcomes. Although there was no significant difference in neonatal outcomes, generation

cephalosporin plus clarithromycin may have beneficial effect for short-term prolongation of pregnancy (up to 48 hours) to allow for the administration of antenatal corticosteroids and transfer to the tertiary center.

P057

CHALLENGES IN THE DIAGNOSIS AND SCREENING FOR TOXOPLASMA GONDII DURING PREGNANCY: RESULTS FROM A REFERENCE CENTER IN BRAZIL

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Problem statement: In Brazil there is high prevalence of toxoplasmosis. The serological screening in the first trimester of pregnancy is recommended by the Brazilian Ministry of Health. Prenatal diagnosis of congenital toxoplasmosis (CT) influences follow up and therapeutic management in pregnant women. As maternal infection is usually asymptomatic, serological tests for toxoplasma-specific immunoglobulin M (IgM) and IgG are used to identify women infected during pregnancy, together with other serological results such as IgG avidity. No consensus exists about the most effective screening strategy. This study aimed to discuss the variability and persistence of positive toxoplasma-IgM results from the women followed during the pregnancy and after birth at a reference center in Rio Grande do Norte state, Brazil. **Methods:** Sixty-four women were included in the cohort between 2016 and 2018. They were referred to the center if they had tested positive for toxoplasma-specific immunoglobulin M (IgM) during the prenatal consultations. Only the patients with 2 or more serological results for IgM were included in the study. All the tests were performed by the state reference laboratory with an immunosorbent agglutination assay. We compared IgM results over time to see if they had alteration along the months and even years. **Results:** Sixty-four women were included in the cohort between 2016 and 2018. The median age was 29 years old. The Spearman correlation showed that the first IgM toxoplasma test during pregnancy did not vary compared to IgM dosed after 4 and 8 weeks. Furthermore, IgM levels during pregnancy did not change even after delivery, with a median of 246 days between IgM dosages. **Conclusion:** Variability in the duration of the IgM response limit their use for predicting the timing of infection (e.g. during the pregnancy or before), and the decision to refer for additional follow up and treatment should not be based on a single IgM- and IgG-positive test, while we have seen a lot of positive low level IgM results and persistence of those IgM low level even after years. Efforts to improve the current diagnostic strategies to reduce unnecessary follow up and treatment is necessary.

P058

ASSOCIATION OF THE DEVELOPMENT OF SURGICAL SITE INFECTION AND POST-OPERATIVE ORAL ANTIBIOTICS IN LOW RISK TERM PREGNANCIES WHO UNDERWENT CESAREAN SECTION IN A LOW RESOURCE COUNTRY HOSPITAL

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Cesarean sections are one of the most commonly performed surgeries worldwide. In our institution, for example, 930 cesarean sections have been performed in the past year alone, comprising 61.26% of total deliveries. Of worldwide cesarean sections, 3% to



15% develop surgical site infection as a complication. Much resource has been directed to decrease the incidence of such infection, from pre-operative, intra-operative and post-operative practices. This study, then, aims to determine the association of the use of post-operative oral antibiotics and the development of surgical site infection in a Philippine private tertiary hospital in low risk term pregnant patients who underwent cesarean section in the same institution. A purely observational prospective study was then employed and qualified patients were assessed, comparing and studying those who were given post-operative oral antibiotics versus those who were not, and the rate each arm ($n \geq 142$) developed surgical site infection and its severity. A chi-squared test was then used with a 0.05 α level of significance to analyze the collected data, which revealed no significant difference between the two arms. The study now provides local data of the incidence of surgical site infection after cesarean section and may be used as evidence to increase compliance of good antibiotic stewardship within the practices of obstetricians. The study also further solidifies the current inclusions of the cesarean section package available in the institution where the study was conducted.

P059

HIGH PLACENTAL GROWTH FACTOR LEVELS IN WOMEN WITH SUSPECTED OR WITH CONFIRMED PRECLAMPSIA DO NOT ASSOCIATE WITH BRONCHOPULMONARY DYSPLASIA DEVELOPMENT IN PRETERM NEONATES

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Problem statement: Studies have reported an association between umbilical cord blood levels of PlGF (placental growth factor), soluble fms-tyrosine kinase-1 (sFlt-1) and neonatal complications such as bronchopulmonary dysplasia (BPD). In this study we determine whether maternal serum levels of sFlt-1, PlGF and their ratio in women with suspected or with confirmed preeclampsia are associated with the development of BPD and other neonatal complications, independent of gestational age in preterm neonates. **Methods:** In patients submitted with suspected or clinically confirmed preeclampsia maternal blood was sampled for determination of serum levels of sFlt-1, PlGF and their ratio. Women with singleton pregnancies, delivering before 34 weeks of gestation were included. Fetal/neonatal outcomes were death, SGA (birthweight 10th percentile), Apgar score below 7 (after 5 minutes), length of stay at the neonatal intensive care unit (NICU), respiratory distress syndrome (RDS), BPD, and sepsis. Odds Ratios between values of sFlt-1, PlGF and sFlt-1/PlGF ratio and outcomes were evaluated using logistic regression analysis without and with adjustment of gestational age. **Results:** A total of 143 singleton deliveries were analyzed. The median GA was 28.2 weeks (interquartile range 20.0-33.6) at study entry and 29.2 weeks (20.6 – 34.0) at delivery. Fetal/neonatal death occurred in 17, birthweight 10% in 18, Apgar score 7 in 12, RDS in 80 BPD in 19 and sepsis in 36 pregnancies. ORs were present for the association between the PlGF and BPD, fetal death, RDS and SGA, and were respectively 16.3 (3.0 – 89.1), 4.8 (1.2–19.1), 2.2 (0.8 – 5.8) and 3.0 (0.7 – 12.9). However, significant association were no longer found after correcting for gestational age at delivery. **Conclusion:** There is no direct connection between the biomarkers and adverse neonatal outcomes. Maternal PlGF and sFlt-1/PlGF-ratio are predictors of prematurity, and therefore indirectly related to complications such as BPD, RDS and SGA. Disclosure of interests: None Declared

P060

UNRUPTURED THIRD TRIMESTER OVARIAN PREGNANCY: A CASE REPORT

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Problem statement: Ovarian pregnancy is a type of ectopic pregnancy where the fertilized ovum is implanted in the ovary. It is a rare entity and preoperative diagnosis remains problematic due to its nonspecific clinical presentation and sonographic findings. **Methods:** Here, we present a case of an advanced ovarian pregnancy at 28 weeks' age of gestation initially managed as a case of fetal death in-utero and subsequently as a suspected abdominal pregnancy. Preoperative aortogram and embolization was done to minimize intraoperative blood loss. **Results:** Upon exploration of the abdomen, the products of conception were contained within an intact right ovary. Our patient underwent right salpingo-oophorectomy. **Conclusion:** We obtained a stillborn baby girl weighing 1410 grams with no gross deformities. Histopathology confirmed the diagnosis of an ovarian pregnancy.

P061

CLAUDE-BERNARD-HORNER'S SYNDROME DURING LABOUR

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Problem statement: Claude-Bernard-Horner's syndrome, or oculosympathetic palsy, is a neurological syndrome compound of the classic triad of ptosis, miosis and anhidrosis. It results from interruption, at any level, of the three neuron sympathetic pathway that originates in the hypothalamus. It is usually an acquired condition caused by tumors, trauma or cardiovascular disease. It has also been described as a complication of Epidural analgesia/anesthesia, especially associated to obstetric procedures. **Methods:** This is a case report. **Results-case report:** A 34 year-old patient presented at 40 weeks and 1 day of gestation with active labour. She had a previous vacuum-assisted vaginal delivery 5 years before, without complications. Intravenous Oxytocin was started to stimulate uterine contractions due to meconium stained amniotic fluid. Half an hour later, the patient requested Epidural analgesia, which was started without incidents and with adequate pain control. One hour later, the patient presented miosis and reddening of her left eye, as well as paresthesias and distal weakness in her left upper limb. Her vital signs remain stable and the neurological examination was normal in addition to the transcranial doppler ultrasound. Epidural perfusion was discontinued. Labour continued without any other complications. Five hours later, the patient had an eutocic delivery of a 3470g female with Apgar test 9/10. The symptoms of miosis, ptosis and conjunctival reddening remained during immediate puerperium. A few hours after delivery, the patient had complete and spontaneous recovery. **Conclusion:** Horner's syndrome is very rare complication of Epidural analgesia. It is more frequent in obstetric patients due to the anatomical and physiological changes during pregnancy that facilitate spreading of the anesthetics. Incidence of this syndrome is unknown because many cases are not diagnosed nor reported. It is a benign, self-limited condition so it is important for obstetric care providers to identify it and hereby avoid unnecessary diagnostic and therapeutic procedures. Nevertheless, Horner's syndrome may be sign of severe underlying conditions which must keep us alert if it persists after a few hours.



P062

KNOWLEDGE, ATTITUDE AND PRACTICES OF OBSTETRICIANS AND GYNECOLOGISTS ON NON – INVASIVE PRENATAL TESTING IN A PRIVATE TERTIARY HOSPITAL IN A LOW RESOURCE INCOME COUNTRY

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Chromosomal abnormalities are common. The American College of Obstetrics and Gynecologists (ACOG) and American College of Medical Genetics recommend invasive and non – invasive prenatal testing (NIPT)³. The invasive testing, however, carries risk for procedure – related miscarriage. ⁴This favors NIPT which avoids the risk. The current state of NIPT in the Philippines, is it was only in January 2018, were a NIPT workshop was conducted by the Society of Maternal Fetal Medicine. ⁶Because little is known about NIPT locally, hence the conduct of study. **Problem statement:** The study aimed to investigate on the obstetrician and gynecologists’ (OB-GYNs) knowledge, attitude towards and practices (KAP) about NIPT. Majority of the OBGYNs were knowledgeable, had positive attitude and were practicing NIPT. **Methods:** The study was conducted at the following areas at two tertiary hospitals (pre – testing and actual conduct of study). The research protocol and the questionnaire were approved by the Institutional Review Board (IRB) of of the two institutions. The survey was adapted from 2 previously constructed questionnaires (composed of 5-point Likert scale and multiple choices) used in studies of (Verweij, 2014; Tamminga et al., 2015; Van Schendel et al. 2015, 2016 and Davis, 2013). The questionnaire was further subjected for content validity (including face validity) and field content expert review.

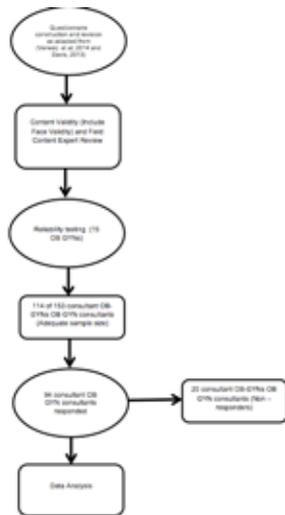


Figure 1. Diagrammatic Workflow of Methods

Results: Majority of the OBGYNs were knowledgeable, had positive attitude and were practicing NIPT. Strikingly, a fourth of the respondents were not comfortable in explaining NIPT. **Conclusion:** Based on the findings, this research is a reasonable representation of the local utilization of NIPT. The researcher recommends that there is a need to conduct this study on a larger scale cross - sectional survey (national level) and multiple studies due to the paucity of data.

P063

ANTIBODY MICROARRAY ANALYSIS OF AMNIOTIC FLUID PROTEINS ASSOCIATED WITH SUBSEQUENT RUPTURED MEMBRANES AFTER CLINICALLY INDICATED AMNIOCENTESIS IN WOMEN WITH PRETERM LABOR

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Problem statement: We aimed to identify proteins associated with subsequent ruptured membranes in the amniotic fluid (AF) of women with threatened preterm labor and intact membranes (PTL) who had a clinically indicated amniocentesis, to validate selected candidate proteins in a total cohort of PTL, and to examine the association between these proteins in AF and the onset of membrane rupture. **Method:** This retrospective cohort study included the consecutive collection of AF samples from 201 women with PTL (24–33.6 weeks) who underwent amniocentesis. A nested case-control study was conducted on 20 women with PTL with subsequent ruptured membranes within 7 days after amniocentesis, and 20 gestational age-matched women with PTL with term delivery (control subjects), using protein–antibody microarray analysis. The validation of 9 candidate proteins of interest was performed by ELISA in the total cohort (n = 201). **Results:** Seventeen proteins studied displayed intergroup differences. Validation by ELISA confirmed significantly increased AF levels of FAS, EN-RAGE,IGFBP-3, IL-6, IL-8, lipocalin-2, MMP-8, MMP-9, and S100 A8/A9 in women with rupture within 7 days of amniocentesis (n=39) than in women without rupture with term delivery (n=146). Similarly, AF levels of these proteins were significantly higher in women with rupture within 7 days of amniocentesis than in women with rupture who occurred more than 7 days, but less than 37.0 weeks (n=16). Moreover, time interval from amniocentesis to membrane rupture was inversely correlated with the AF levels of these proteins, except for the positive correlation of AF IGFBP-3 with time interval. **Conclusion:** In this study, we found a couple of inflammatory, angiogenic, matrix degradation, and apoptosis-related proteins in AF associated with subsequent ruptured membranes in women with threatened PTL, using an antibody microarray. These findings provide insight into mechanisms, which is chronic, underlying membrane rupture occurring in threatened PTL.

P064

PESSARY INSERTION IN PRETERM TWIN GESTATION IN THE PHILIPPINES: A CASE REPORT

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Problem statement: Preterm birth accounts to 35 % of deaths in a year. Twin gestation, around 7.2 per 1000 births in the Philippines, is a known risk factor that increases likelihood of preterm birth compared to singletons. Most studies that addresses preterm births are focused on singleton pregnancies. The only established recommendation to control preterm labor in twin pregnancies in the Philippines is to give progesterone. Pessary insertion is one of the modalities that have shown benefits for preterm twin gestation among the western countries. There are no reported cases of pessary insertion to control preterm labor among twin pregnancies in the Philippines. **Methods:** This study presents a case of a 26 year old with twin gestation in preterm labor. She initially presented with irregular uterine contractions and vulvovaginal candidiasis at 27 weeks and 3 days age of gestation. On transvaginal ultrasound, she had no functional cervix. Her vulvovaginal candidiasis was treated with miconazole. She was given progesterone for her preterm labor, nifedipine to control her uterine contractions and dexamethasone for fetal lung maturity.



After treatment of candidiasis and control of uterine contractions, Hodge pessary was inserted at 28 weeks age of gestation. Her cervical length after pessary insertion was measured to be at 2.38 cm. Prenatal and pessary care were advised for continuation throughout pregnancy. **Results:** She delivered by spontaneous vaginal delivery to live baby girls. Both newborns were 36 weeks by pediatric aging, 2,000 grams, appropriate for gestational age and directly roomed-in with their mother. **Conclusion:** Further studies are recommended to establish stronger evidence supporting pessary use in multiple gestation to improve outcome of neonates in the Philippines.

P065

MATERNAL MORTALITY IN MEXICO 2010-2018**Francisco Javier Posadas Robledo***National Center for The Prevention and Control Of HIV And Aids.,
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Problem statement: Between 2001 and 2010, Mexico managed to reduce the maternal mortality ratio (MMR) by 36%, from 68.9 to 44.1. Insufficient to reach the goal of 75%: 22.2 maternal deaths per 100 thousand births, committed to 2015, in the Millennium Development Goals (MDGs). The quality of obstetric care and social determinants complicated the achievement of the goal. **Method:** Observational study, descriptive evolution of 8 years of the MMR in Mexico from 2010 to 2017. Mexico has a total population of 123.5 million inhabitants, for the year 2017. There are 2.2 million births each year. We analyze the main causes of maternal mortality and consider possible scenarios and solutions to reduce it and the expectation of having a universal, free and quality health system to accelerate the impact. **Results:** Mexico registered 992 maternal deaths in 2010, with an MMR of 44.1. In 2017, there were 758 deaths, with an MMR of 34.0 maternal deaths per 100 thousand births. The age group with the highest mortality was the group of 45-49 years old with an MMR of 120 deaths and the youngest was 15-19 years old with an MMR of less than 10 deaths per 100 thousand births. The main causes of maternal death: hypertensive disease, obstetric hemorrhage, abortion, respiratory system disease and puerperal sepsis. These five causes concentrate 53.3%. The 64% of women, who died, did not have social security. * In 2018, with preliminary data, country registered a maternal mortality ratio of 29.8 deaths per 100,000 live births. **Conclusions:** In Mexico, maternal mortality continues to be a public health problem. The advances achieved are insufficient. In 8 years analyzed, there is a 30% decrease in MMR. The 84% of the causes of death are preventable. The evidence indicates that it is necessary to intensify actions to reverse social determinants, such as the lack of social security and to promote a universal, free and easily accessible health system. The most affected states have unresolved social determinants, such as poverty and low educational level. The route to achieve reducing maternal death includes better quality of obstetric care and resolving social determinants.

P066

CONGENITAL X-LINKED INTESTINAL PSEUDO-OBSTRUCTION

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Problem statement: Intestinal pseudo-obstruction is a rare condition characterized by an impairment of the muscle contractions that move food through the digestive tract. Works as a bowel obstruction but no physical bowel obstruction is found. This condition can cause abdominal swelling, nausea, pain and vomiting. **Case report:** We report a 39-year-old woman on her

second pregnancy in which no anomalies were found on first and second trimester ultrasound scans. At 29.4 week gestation a 13 mm dilatation of the umbilical vein at the abdominal entry of the umbilical cord (aneurism), intestinal dilatation of 10mm, heart axis of 56° with normal fetal echocardiography were found associated to an estimated fetal weight on the 8th centile. Amniocentesis was performed and karyotype resulted 46XY with normal ARRAY, also DiGeorge and Cystic fibrosis were ruled out. Maternal TORCH serologies were negative. Further ultrasound scans showed diffuse dilated bowel loops, estimated fetal weight between 4th and 12th centile and cardiomegaly with heart axis of 75°. Amniotic fluid volume and Doppler assessment were normal. Due to suspicion of bowel obstruction, labour was induced at 38 weeks ending on a vaginal birth of a 2810 gr male newborn. Newborn required surgery at 12 days due to an intestinal malrotation and an intestinal motility disorder was suspected. At age 3-month a gastrostomy and an exploratory laparotomy were performed, identifying normal jejunum and ileum. Biopsies were taken and Filamin A Immunohistochemistry Technique showed absence of expression in smooth muscle, supporting the diagnose of X-linked intestinal pseudo-obstruction (XPOI). **Conclusion:** FLNA gene is located at Xq28 and encodes Filamin A protein. Filamin A is an actin cross-linking protein involved in cytoskeleton formation and structure. Gene defects are associated to different disorders, such as congenital X-linked intestinal pseudo-obstruction. The congenital forms are rare but severe, diagnosis is often made in the early month of life.

P067

DANDY-WALKER MALFORMATION: THE IMPORTANCE OF PRENATAL DIAGNOSIS. A CASE REPORT

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Problem statement: Dandy-Walker malformation and its spectrum is a condition due to be suspected at second trimester ultrasound. It contemplates different levels of cerebellar vermis absence/atrophy and/or malrotation, expansion of the 4th ventricle and increased posterior fossa. Clinical manifestations may include mental retardation and impaired neurological development, the length of disability can't be totally know prenatally. **Case report:** We report the case of a 35 year old woman on her 4th ongoing pregnancy. On relevant medical history she was diagnosed with Gestational diabetes and had 3 previous cesarean sections. First ultrasound scan showed a Crown-rump length of 92 mm, so nuchal translucency was not assessable. Second trimester combined screening was performed and resulted in low risk of aneuploidies. Second trimester ultrasound was performed at 21.3 weeks and detected a suspicious agenesis of the cerebellar vermis with a visible 4th ventricle in communication with cisterna Magna, the rest of the scan resulted normal, fetal weight and amniotic fluid were also normal. Cerebellar hemispheres were apparently normal and corpus callosum was also normal, no hydrocephalus was detected. Amniocentesis, fetal echocardiogram and fetal MRI were performed. Normal karyotype (46XX) and ARRAYS were informed. Fetal echocardiogram resulted normal. Fetal MRI demonstrated an increased posterior fossa and hypoplastic vermis with malrotation. The woman was informed about diagnosis of a Dandy-Walker malformation and its fetal prognosis, she decided to on-go with the pregnancy. We referred the patient to a pediatrics specialized center to follow-up pregnancy and birth. Neurosonography confirmed Dandy-Walker malformation with hypoplastic cerebellar hemispheres and hypoplastic vermis. Delivery occurred by cesarean section at 36.1 weeks due to spontaneous premature rupture of membranes. Female neonate was born with a normal APGAR test and umbilical cord pH also normal. Follow up of the neonate is



currently ongoing. **Conclusion:** Second trimester ultrasound screening is the main technique to suspect/diagnose Dandy-Walker, MRI can add some information. Prognosis is variable. Half of affected individuals will present intellectual disability, delayed development of motor skills and coordinating movements. Parents should be carefully informed about the prognosis due to decide further steps.

P068

PREGNANT AND NEWBORN WITH RESTRICTED FETAL GROWTH - 5-YEAR EXPERIENCE IN A TERTIARY HOSPITAL

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Problem statement: Fetal growth restriction is the pathological limitation of fetal growth, genetically determined for gestational age. It is a major cause of severe perinatal morbidity and mortality and long-term sequelae. Its diversified presentation makes it one of the most variable obstetric entities in the clinical approach, which is difficult to protocol. **Methods:** Retrospective descriptive study of all parturients admitted to our Service with p3 NB, between January/2014 and December/2018(5 years). $p < 0.05$ was considered significant. SPSS version 25.0. We aim to characterize the parturient and the newborn with weight inferior to percentile 3 (P3 NB) in the only obstetric service of the Autonomous Region of Madeira, representative of its obstetric population. **Results:** There were 8934 deliveries during the study period, of which 16.09% (1442) corresponded to newborns weighing 10th percentile and 4.61% (412) to newborns p3. The average maternal age was 31.92 years. 63.05% were nulliparous and the average parity was 0.56. 50.22% of P3 newborn pregnancies were monitored under private medicine. 16.58% of P3 NB have smoking mothers. Regarding the mode of delivery, 48.23% of the p3 newborns were born by caesarean and 7.67% of the total number of cesarean were performed in P3 NB. 39.35% of P3 NB were born by elective caesarean section and 64.72% by urgent caesarean section. 59.94% of cesarean sections occurred in the absence of labour; non-reassuring fetal status (38.11%) and pregnancy-specific pathology (11.4%) were the most frequent reasons. 27.56% of the women belonged to Robson's group 2. The average gestational age at birth was 37.87 weeks, with 5.57% of newborns p 3 born before 32 weeks and 80.06% after 37 weeks. There were 84 cases of prematurity, 77 hospitalizations in the Neonatal Intensive Care Unit, 13 neonatal deaths and 9 cases of neonatal sepsis. **Conclusion:** Significant advances in neonatal intensive care decreased morbidity and mortality associated with prematurity. However, there are still significant differences in the morbidity of newborns with obstetric diagnosis of Fetal Growth Restriction. The growing collaboration between obstetricians and neonatologists will allow the early diagnosis and surveillance of these fetuses, with consequent impact on the short and long term prognosis.

P069

THE ROLE OF TNF- A GENE POLYMORPHISMS IN PRETERM DELIVERY

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Problem statement: Nowadays the strong genetic background of preterm delivery (PTD) in connection with immune answer has been indicated. The purpose of the study was the assessment of

frequency of *TNF- α* -238GA, -308GA, -376GA gene polymorphisms in the etiology of preterm delivery. **Material and methods:** The study group consisted of 150 women with PTD (22+0 - 36+6 gw.), the controls of 150 women who delivered at term (37 gw.). PTD group was divided into subgroups: a/ delivery between 22-28 gw., b/ 28-32 gw., and c/ 32-36+6 gw. Genetic analysis was performed by PCR/RLFP method. **Results:** Overrepresentation of -238GA genotype (12,7 vs. 4,7%, $p=0,011$) and -238A allele (7,7 vs. 2,3%, $p=0,002$) in PTD group has been observed. In PTD 28-32 gw. subgroup, higher frequency of -238GA genotype (31,6 vs. 4,7%, $p=0,00095$), and mutated -238A allele (21,1 vs. 2,3%, $p=0,00004$) was noted. Moreover in PTD 28-32 gw. subgroup we have noted higher presence of heterozygous -376GA genotype (10,5 vs. 1,3%, $p=0,063$) and mutated -376A allele (5,3 vs. 0,7%, $p=0,064$). Analysis of *TNF- α* polymorphisms co-occurrence showed statistically significant overrepresentation of genotypes containing mutated -238A allele in PTD group (-238GA/-308GG/-376GG: 8,0 vs. 2,7%, $p=0,035$). Haplotype analysis revealed statistically significant difference between PTD and controls in the incidence of -376G/-308G/-238A haplotype containing mutated -238A allele (0,063067 vs. 0,016634, $p=0,030$). **Conclusion:** The study indicated the strong association of mutated -238A allele of *TNF- α* gene with increased risk of PTD. Analysis of genotypes and alleles prevalence in PTD women divided according to gestational age suggests the possible role of mutated variants of -238GA and -376GA *TNF- α* polymorphisms in Polish women delivering between 28 and 32 gw.

P070

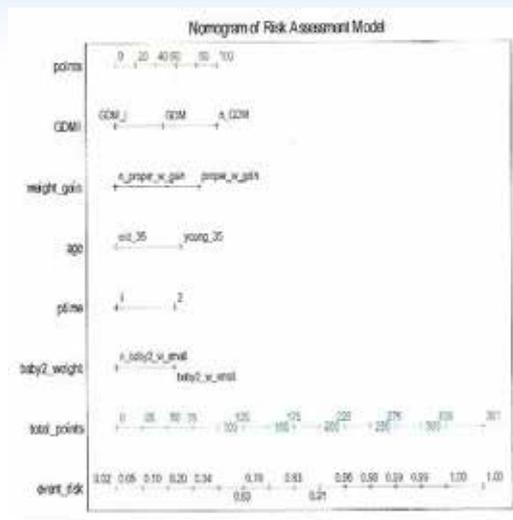
THE ESTABLISHMENT OF A SCORE SYSTEM FOR VAGINAL DELIVERY OF TWIN PREGNANCY

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Problem statement: To establish a score system for vaginal delivery of twin pregnancy. **Methods:** The study subjects are the twin pregnant women (uncomplicated twin pregnancy with head downward position of the first fetus, not MCMA twins) who were under systematic antenatal care and delivered at the Beijing Obstetrics and Gynecology Hospital from January 2017 to March 2019. The ones with successful vaginal delivery were classified into the study group and the ones who were transferred to Caesarean sections during trial delivery into the comparison group. The studying targets include: the chorionicity, position of the second fetus, weights and the difference of the two fetuses; the maternal age, delivery pregnancy weeks, parity, BMI, reasonability of weight gain during pregnancy, complications during pregnancy (including GDM, PIH, etc.), IVF-ET, the technical title of the doctor, modes of labour (spontaneous labor or induced labour and its mode), the application of labor analgesia, etc. **Results:** There were 114 women of twin pregnancy with 96 in the study group and 18 in the comparison group. Through the single-factor and multiple-factor logistic regression statistical analysis, there are five variables ($P < 0.05$) were included in the model. Models were developed and scores for each variable were given according to the multiple-factor regression analysis index and nomogram. The scores are: the age of the mother < 35 years old: 64; no GDM: 100, no insulin application in GDM: 47, and application of insulin: 0; reasonability of weight gain during pregnancy: 82; parity ≥ 2 : 58; and the weight of the second fetus is less than the first: 57. The ROC curve was plotted and the AUC is 0.8561, The maximum value of the Youden index is 0.5647 and the corresponding score is 168. **Conclusion:** The age of the mother, reasonability of weight gain, GDM, parity, and the weight difference of the twins should be included in the score system for vaginal delivery of twin pregnancy. The total score of the model is 361 and when the score is larger than 168, the success rate of the vaginal delivery increases significantly.





P071

THE RELATIONSHIP BETWEEN HIGH VAGINAL SWAB CULTURES AND PRETERM BIRTH IN WOMEN WITH CERVICAL CERCLAGE

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Problem statement: Cervical cerclage is widely used for the prevention of preterm birth. It reduces the risk of preterm birth by approximately 20% in women with a history of spontaneous preterm birth and/or a short cervical length. It is thought to provide mechanical support as well as improving the cervical plug as a barrier to ascending infection. An association between lactobacillus depletion and vaginal dysbiosis leading to poor outcomes, such as preterm birth, has been reported. Recent data has shown that positive vaginal cultures at the time of an emergency cerclage is associated with preterm delivery. The aim of this study was to determine if positive vaginal or urine cultures is associated with preterm delivery in women with a cervical cerclage. **Methods:** Women were retrospectively identified from St Thomas's Hospital Preterm Birth Clinical Network Database. Women with a singleton pregnancy presenting for an ultrasound- or history- indicated cerclage from January 2015- June 2019 (n=65) were included. High vaginal swabs (HVS) and urine cultures were collected at the time of cerclage insertion. Positive urine cultures and bacterial vaginosis on HVS were treated with antibiotics (as per hospital antibiotic guidelines). Cervical cerclage cultures were also collected following cerclage removal. **Results:** In this study 65 women were included. Of these women, 36 had a history indicated cerclage versus 29 who were ultrasound indicated. The median time of cerclage insertion was 16+6 weeks. Following insertion, 40% (26) of women delivered preterm before 37 weeks gestation, compared to 60% (39) who delivered at term. Between the term and preterm groups, there was no difference in the women having a positive urine culture (11% vs 21%; p=0.4) or a positive cervical cerclage culture (70% vs 78%; p=0.9). In HVS cultures, bacterial vaginosis at time of cerclage insertion was more prevalent in the term group compared with the preterm group (28% vs 4%, p=0.01). There was no difference in the prevalence of GBS, Klebsiella, Staphylococcus aureus and Candida between the two groups. **Conclusions:** The HVS cultures were not reliable in predicting preterm birth however, there is evidence to support that the antibiotics given to women with BV may prolong delivery.

P072

THE USE OF LEVOBUPIVACAINE WITH OR WITHOUT KETOROLAC IN POST CESAREAN PAIN MANAGEMENT: A RANDOMIZED DOUBLE-BLINDED CONTROL TRIAL

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Background: Cesarean delivery is the most common operative procedure among reproductive age women. An effective analgesia is required for adequate postoperative pain control. **Objective:** To determine the effectiveness in pain reduction of levobupivacaine usage compared to its combination with ketorolac via local infiltration postoperatively in participants who underwent cesarean delivery under spinal anesthesia. **Materials and methods:** Pregnant women between 18 and 40 years of age, who underwent cesarean delivery, were enrolled. The participants were randomly allocated into two groups. The study and control group received local surgical wound infiltration of 50 mg of levobupivacaine (0.5%) with or without 30 mg of ketorolac at the end of surgical wound closure, respectively. After the operation, the visual analog scale (VAS) was recorded at 1, 2, 4, 8, 12, 18 and 24 hours. Demographic data, additional opioid requirement and adverse effects such as nausea, vomiting and postpartum hemorrhage were also recorded. **Results:** A total of 160 parturient were recruited and consist of 80 cases in each group. Both groups showed no statistical significance in demographic data. Postoperative pain in the study group was significantly lower than the control group within the first 24 hours after surgery. The p-value at 1, 2, 4, 8, 12, 18 and 24 hours were 0.038, 0.000, 0.000, 0.000, 0.010, 0.014 and 0.045, respectively. Overall meperidine requirement and side effects during the first 24 hours in the study and control group were comparable. **Conclusion:** Combined ketorolac with levobupivacaine significantly decreased postoperative pain after cesarean delivery compared to the use of only levobupivacaine. **Keywords:** Ketorolac, levobupivacaine, cesarean delivery, pain

P073

DELAYED DIAGNOSIS OF GESTATIONAL DIABETES MELLITUS IN PREGNANT WOMEN WITH MACROSOMIA AT LATE PREGNANCY

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Problem statement: Gestational diabetes mellitus (GDM) is a leading cause of fetal excessive growth in utero. However, macrosomia is sometimes suspected on ultrasound at late pregnancy in women with normal blood glucose test at 24-28 weeks of gestation. This study was performed to evaluate the incidence of newly diagnosed GDM at late pregnancy and their perinatal outcome in these women. **Methods:** Retrospective cohort study was performed. Among the singleton pregnant women delivered from January 2010 to December 2018, women who were retested for an oral glucose tolerance test (OGTT) because of suspected fetal macrosomia on ultrasound in the 3rd trimester were enrolled. Their results of GDM screening at 24-28 weeks of gestations had been normal. **Results:** Of 169 pregnant women who were retested for 100-g OGTT, 13% (23/169) was newly diagnosed of GDM. There were no significant differences in the maternal age, parity, gestational age at OGTT, and fetal sex

between GDM and non-GDM group. The women in GDM group had higher level of HbA1c (5.8 vs 5.3, p=0.01) and earlier gestational age at delivery than women in non-GDM group (38+1 vs 38+5 weeks of gestation, p=0.003). Cesarean delivery (CD) rate in GDM group was significantly higher than that of non GDM group (73.9%, vs 49.3%, p=0.028). When we analyzed the reason of CD, the proportions of reasons were similar in both groups except CD on maternal request (CDMR). The rate of CDMR without any obstetrical indication was higher in GDM group than that of non-GDM group (41.2% vs 23.6%), but it could not reach the statistical significance. There were no significant differences in incidence of obstetrical complications (gestational hypertensive disease, preterm birth, and shoulder dystocia) and neonatal complications (NICU admission and neonatal hypoglycemia) between the two groups. **Conclusion:** Showing normal results in routine blood glucose test, 13% of pregnant women with suspected macrosomia on ultrasound in the 3rd trimester of pregnancy were newly diagnosed of GDM. Nonetheless, there were no differences in perinatal outcomes between newly diagnosed GDM group and non-GDM group. However, concerns over complications of GDM, such as shoulder dystocia, appear to increase cesarean delivery.

P074

ANTIBIOTIC PROPHYLAXIS FOR PRETERM PREMATURE RUPTURE OF MEMBRANE BASED ON THEIR MICROBIOLOGY PATTERN AND ANTIBIOTIC SUSCEPTIBILITY TEST: IS IT APPROPRIATE?

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Problem statement: Preterm premature rupture of membrane (PPROM) defined as a non-iatrogenic rupture of membranes before the onset of labor without effective contractions. PPRM is responsible for one-third of all preterm births and affecting 5-10% of pregnancies in Indonesia each year. PPRM is associated with significant maternal and neonatal morbidity and mortality from infection, umbilical cord compression, and preterm birth. The purpose of this research is to determine the pattern of bacteria and antibiotic susceptibility testing and to know the effectiveness of antibiotics used as a prophylaxis procedure in PPRM. **Methods:** This descriptive observational study was carried out in the department of Obstetrics and Gynaecology Hasan Sadikin Hospital Bandung from May to August 2019. Patients admitted in Obstetrics and Gynaecology Unit through the emergency department with gestational age between 28 to 37 weeks with PPRM confirmed by ultrasound and clinical examination were included. Amniotic fluid was obtained from fluid pooling from posterior fornix and fluid sample was transported to the laboratory. The amniotic fluid was cultured for aerobic and anaerobic bacteria and was tested for antibiotic resistance. **Results:** During the period of study, a total of 25 cases were enrolled. The results showed Gram-positive and Gram-negative bacteria culture from PPRM patients' amniotic fluid. Most bacteria found were Staphylococcus haemolyticus (n=11,44%) followed by Escherichia coli (n=5, 20%) and 1 (4%) grew Candida species. Of eleven positive bacterial cultures of Staphylococcus haemolyticus, two were sensitive to Benzylpenicillin and none were sensitive to Cefadroxil. Commonly used antibiotics such as Ceftriaxone, Ampicillin, Cefotaxime has moderate resistance. Whereas, Ceftriaxone has the highest level of resistance in Escherichia coli. Erythromycin has low resistance in both Staphylococcus haemolyticus and Escherichia Coli. **Conclusions:** Staphylococcus haemolyticus and Escherichia coli were the most commonly found organism in amniotic membrane culture of PPRM patients in Hasan Sadikin Hospital. The most commonly used antibiotics such as Cefadroxil or Ceftriaxone have the highest levels of antibiotic resistance in Staphylococcus haemolyticus and Escherichia coli, respectively. The sensitivity pattern of bacteria to antibiotics does not indicate suitability of

Cefadroxil, Cefotaxime or Ceftriaxone as current prophylaxis. Erythromycin remains the antibiotic choice for PPRM prophylaxis.

Antibiotic resistance and sensitivity data on Staphylococcus haemolyticus and Escherichia Coli

Antibiotic	Staphylococcus haemolyticus (n=11)		Escherichia Coli (n=5)	
	S	R	S	R
Ampicillin/Sulbactam	4	7	1	4
Ceftazone	4	7	1	4
Gentamycin	3	2	3	2
Ampicillin	0	2	0	5
Amoxicillin + Clavulanic Acid	4	7	2	0
Cephazolin	4	7	1	0
Cefazolin	4	7	1	0
Ceftriaxone	0	6	0	0
Cefepime	4	7	0	0
Ceftazime	4	7	6	1
Cefepime	4	7	5	0
Ceftriaxone	0	7	0	0
Levofloxacin	3	2	1	0
Moxifloxacin	3	2	1	0
Ciprofloxacin	3	2	5	0
Clarithromycin	8	3	1	0
Tigecycline	10	8	5	0
Vancomycin	11	8	1	0
Clindamycin	9	2	1	0
Erythromycin	8	3	1	0
Etaposon	4	7	5	0
Mertensin	4	7	5	0
Linezolid	11	8	1	0
Benzylpenicillin	2	9	1	0
Tetracycline	4	7	1	0

P075

PREVALENCE OF URINARY INCONTINENCE IN AN OBSTETRICS AND GYNECOLOGY PRIMARE CARE OF BARCELONA

PRENATAL CF-DNA SCREENING FOR DOWN SYNDROME AND OTHER CHROMOSOMAL ABNORMALITIES IN UNSELECTED PREGNANCIES IN SLOVENIA

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Problem statement: The use of prenatal cf-DNA-testing brings changes in decline of numbers of invasive procedures in women with high or low risk. The average age of women with cf-DNA-testing decreases, numbers of tests increase, invasive procedures decrease. **Methods:** We present the characteristics of pregnant woman, who opted for cf-DNA-testing in one private clinic in the period from 1.1. 2013 until 31.12.2018. In our study, 11137 pregnant women were screened by combined NT assessment as first step. 639 women opted for cf-DNA-testing. Samples were analyzed in clinical laboratory BGI-Shenzhen, China. **Results:** 48.04 % of women with cf-DNA-testing were of advanced maternal age (37 years or more). 18.78 % were at high risk for T21, based on prior screening, 38.14 % had low risk regarding age and prior screening. The average age of women with cf-DNA-testing was similar in the last 5 years (2013: 36.1, 2014: 36.2, 2015: 36.4, 2016: 36.3, 2017: 36.2), but declined in 2018: 34.9 years). The proportion of women with cf-DNA-testing after NT screening increased over the last 6 years (2013: 1.4 %, 2016: 9.13 % and 2018: 18.11 %). The numbers of all invasive procedures in Slovenia decreased from 5.71 % to 4.74 % from 2013 to 2017. The prominent fall we find in the age 37 years or more: from 37.24 % in 2013 to 24.12 % in 2017 and in women aged 35-37 years: from 9.66 % in 2013 to 6.07 % in 2017. In general, cf-DNA-testing had 100 % (95 % CI: 66.4 %-100 %) sensitivity and 99.82 % (95 % CI: 98.97 %-100 %) specificity, PPV turned out to be 90 % (95% CI: 55.5 %-99.75 %) for all aneuploidies. Regarding only T21, sensitivity and specificity were 100 %. **Conclusions:** Our results confirm that prenatal cf-DNA-testing represents highly accurate approach for advanced screening of most common aneuploidies. The numbers of tests in high and low risk pregnant women are increasing. The average age of women using cf-DNA-testing declines. The numbers of invasive procedures declines as well, particularly in the group of women aged 35 years or more.



P076

TOTAL ANTIOXIDANT CAPACITY LEVEL COMPARISON BETWEEN SPONTANEOUS ABORTION AND NORMAL PREGNANCYAlfonsus Zeus Suryawan¹, Alfonsus Zeus Suryawan, Aloysius Suryawan¹, Teresa Liliana Wargasetia²¹Obstetric and Gynecology Department, Maranatha Christian University, Bandung, Indonesia²Biology Department, Maranatha Christian University, Bandung, Indonesia

Problem statement: Abortion is a obstetric problem that is one of the causes of maternal and fetal death. Bleeding or miscarriage threat in the first trimester compromises 20% to 25% of all pregnancy and 50% of them will end as spontaneous abortion. Some recent studies have indicated oxidative stress in spontaneous abortion. Oxidative stress usually happens if there's imbalance between oxidant and antioxidant. Human ability to counter oxidant is measured as total antioxidant capacity (SAT). These data indicate the importance of further research the difference of spontaneous abortion and normal pregnancy SAT level and it's correlation with spontaneous abortion. This study purpose is to examine the difference of spontaneous abortion and normal pregnancy SAT level and to know it's correlation.

Methods: This was a cross sectional study, included 60 pregnant women with gestational age between 8-20 weeks. Composed by 2 group, 30 women with spontaneous abortion and 30 women with normal pregnancy. The blood samples gathered from all participants will be tested by spectrophotometer and RANDOX® Total Antioxidant Status kit. All observed data were analysed using Mann-Whitney test, continued with Chi Square and Odds Ratio calculation ($\alpha=0.05$). **Result:** SAT level in spontaneous abortion is lower rather than in normal pregnancy and proved very significant. There is a connection between SAT with spontaneous abortion and normal pregnancy significantly and risk suffering spontaneous abortion 10.5times greater in women with low SAT rather the women with normal level of SAT. **Conclusion:** There's difference of spontaneous abortion and normal pregnancy SAT level and there's correlation between SAT with spontaneous abortion and normal pregnancy. Keywords Total antioxidant capacity (SAT), spontaneous abortion, normal pregnancy

P077

THREE CASES OF RECURRENT PREGNANCY LOSS COMPLICATED BY COMPLEX CHROMOSOMAL REARRANGEMENTSKoichi Takakuwa¹, Taro Nonaka²¹Center for Perinatal, Maternal and Neonatal Medicine, Niigata University Medical and Dental Hospital, Niigata, Japan²Department of Obstetrics and Gynecology, Niigata University Medical and Dental Hospital, Niigata, Japan

Problem statement: Complex chromosomal rearrangements (CCR) are defined as reciprocal exchanges between three or more chromosomes, and the frequency of CCR is extremely low, even in the patients with recurrent pregnancy loss (RPL). In this study, we analyzed the clinical courses of three patients of RPL complicated by CCR in order to elucidate the condition and pregnancy prognosis in such patients. **Methods:** We analyzed the clinical courses of the three patients of RPL complicated by CCR using medical records of the patients under informed consent. **Results:** Case 1; The patient (25 yo) experienced twice of spontaneous abortion. Autoimmune examinations revealed positive anti-cardiolipin antibody. The chromosome examination revealed that the patient had a reciprocal translocation among three chromosomes with the karyotype; 46, XX, t (4;12;8)(q33; q22; q21.2), while the husband had normal karyotype. After genetic consultation was performed, she was conceived as the third pregnancy. And this pregnancy continued uneventfully, and she delivered a baby girl. The infant's neonatal course was uneventful. For the positive anti-cardiolipin antibody, appropriate treatments were performed. Case 2: The patient (32 yo) experienced three times of spontaneous abortion. The routine examinations for RPL

were done, and the chromosome examination revealed that the patient had a reciprocal translocation among three chromosomes with the karyotype; 46, XX, t (4;8;16) (q27; q11; q22), while the husband had normal karyotype. After genetic consultation was performed, she was conceived as the fourth pregnancy. This pregnancy continued uneventfully, and she delivered a baby girl, whose neonatal course was uneventful. Case 3: The patient (38 yo) experienced twice of spontaneous abortion. The routine examinations for recurrent abortion were done, and the chromosome examination revealed that the patient had a CCR with the karyotype; 46, XX, der(6)(6pter→6q11::12p11.2→12pter), der(12) (6qter→6q11:: 12p11.2→12q12:: 14p13→14pter), der(14)(12qter→12q12::14p13→14qter). While, the husband had normal karyotype. After genetic consultation was performed, she is now trying to become pregnant. **Conclusion:** There is possibility that patients of RPL complicated by CCR can obtain good pregnancy outcome with the appropriate treatment based on the close examinations. There is no conflict of interest.

P078

MANAGEMENT OF A RARE CASE OF NON-IMMUNE HYDROPS AND CONGENITAL CHYLOTHORAX WITH DIFFUSE LUNG DISEASEYin Ru Tan¹, Alvin JH Ngeow², SK Sanamandra⁴, OH Teoh³, MY Chan³, Daisy KL Chan², Hak Koon Tan¹¹Department of Obstetrics and Gynaecology, Singapore General Hospital, Singapore²Department of Neonatal and Developmental Medicine, Singapore General Hospital, Singapore³Division of Paediatric Medicine, KK Women's and Children's Hospital, Singapore⁴Department of Diagnostic Radiology, Singapore General Hospital, Singapore

Introduction: We report the management of a case of non-immune hydrops fetalis and chylothorax in a 35-week gestation baby found to have diffuse interstitial lung disease and possible congenital pulmonary lymphangiectasia. **Methods:** The patient was a 42-year-old gravida 2 para 2, who conceived via in-vitro fertilization and delivered via caesarean section at 35+4 weeks gestation. Non-invasive Prenatal Testing (NIPT) was low risk but no amniocentesis was performed. Fetal anomaly scan at 19 weeks was normal. Gross hydrops fetalis, pleural effusion and polyhydramnios was noted since 28-weeks gestation and patient was referred to a tertiary centre for management. Antenatal investigations ruled out immune hydrops. Screening for intrauterine infections was negative. There was no evidence of fetal anemia as Middle Cerebral Artery (MCA) doppler was normal. Baby was hydropic at birth with significant swelling of his head and neck, but only mild lower limb oedema. After being intubated at 3 minutes of life, he was admitted to the neonatal intensive care unit (NICU) for ventilation. Apgar scores were 3 at 1 minute, 7 at 5 minutes, 9 at 10 minutes. Chest X-Ray confirmed significant right pleural effusion and was drained with a chest tube. Diagnosis of congenital chylothorax was confirmed with pleural fluid analysis. Investigations for other causes of hydrops were negative, including a normal karyotype, negative screen for intrauterine infections, 2D-Echocardiography showing a structurally normal heart and abdominal ultrasound that was normal apart from ascites. High-resolution CT Thorax showed diffuse ground-glass opacity in both lungs. The baby was intubated for 14 days before he was weaned to high flow nasal cannula. He was fed exclusively with Monogen, a medium chain triglyceride-based formula from day 14 and achieved significant improvement, due most likely to improvement in pulmonary lymphatic drainage. He stayed in NICU for 45 days and high dependency unit for another 43 days before being discharged on day 87 with home oxygen. **Results/Conclusion:** The baby presented with both chylothorax and diffuse lung disease, due most likely to congenital pulmonary lymphangiectasia. All foetuses diagnosed antenatally with features of hydrops must be referred to and managed in a tertiary obstetrics and neonatal centre.



P079

CAFFEINE CONTENT IN NEWBORN HAIR CORRELATES WITH MATERNAL DIETARY INTAKE

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Problem statement: High maternal caffeine intake during pregnancy may be harmful for perinatal outcomes and future child health, but the level of fetal cumulative exposure has been difficult to measure thus far. Here, we present maternal dietary caffeine intake during the last trimester and its correlation to caffeine content in newborn hair after birth. **Methods:** Maternal third trimester diets and dietary caffeine intake were prospectively collected in Kuopio Birth Cohort (KuBiCo) using a 160-item food frequency questionnaire (n=2840). Newborn hair was collected within 48 hours after birth and analyzed by high-resolution mass spectrometry (HRMS) for caffeine (n=316). Correlation between dietary caffeine intake and neonatal hair caffeine content was evaluated from 203 mother-child pairs. **Results:** Mean dietary caffeine intake was 167 mg/day (95 % CI 162-172 mg/day), of which coffee comprised 81%. Caffeine in the maternal diet and caffeine content in newborn hair correlated significantly (r=0.50; p 0.001). Older, multiparous, overweight women and smokers had the highest caffeine levels in the maternal diet, as well as similar levels in newborn hair. **Conclusions:** Caffeine exposure, estimated from newborn hair samples, reflects maternal third trimester dietary caffeine intake and introduces a new method to assess fetal cumulative caffeine exposure. Further studies to evaluate the effects of caffeine exposure on both perinatal and postnatal outcomes are warranted, since over 40% of pregnant women consume caffeine despite the current recommendations (European Food Safety Association, EFSA recommendations).

P080

PRECONCEPTIONAL TRAINING FOR WOMEN WITH VARICOSE VEINS

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Introduction: Varicose disease accounts for more than 40% in the structure of morbidity in pregnant women. Improving the tactics of preparing women with varicose veins for childbirth is an important task of medicine. **Materials and methods:** 145 women (main group A) with varicose disease were examined, which took 1 month before pregnancy Diosmin and Hesperidin containing the preparation at 1 tablet per os 3 times a day before meals for 21 days and 145 women (control group B), which did not pass the proposed training. The content of total hydroxyproline, alleles of COL2A1 was determined. **Results and its discussion:** The content of hydroxyproline was 30.0 ± 1.6 mg / day in women of group A outside of pregnancy, in women of group B - 48.0 ± 1.7 mg

/ day. In group B, The content of hydroxyproline in the first trimester in group B was 68.0 ± 4.1 mg / day, in the second trimester - 93.3 ± 5.6 mg / day, in the third trimester - 101.9 ± 6.1 mg / day. In group A, at identical times, The indicators of hydroxyproline content in group A, at identical times, were significantly lower (p 0.01) compared to group B: 61.4 ± 2.5 mg / day, 57.0 ± 2.3 mg / day, 58.2 ± 2.3 mg / day, respectively. Polymorphic alleles COL2A1 in pregnant women with varicose disease are determined at 65.86%: homozygous - 19.4%, heterozygous - 80.6%. The threat of miscarriage in women with varicose disease, who underwent complex preconceptional training, was by 2.3, gestational anemia - by 2.1 times, gestational pyelonephritis - by 1.7 times, preeclampsia - by 1, 7 times, dysfunction of the placenta - by 2.4 times, premature detachment of the placenta - by 3.9 times less compared to the group of women with varicose veins who did not undergo complex preconceptional training. **Findings:** Determination of levels of hydroxyproline, alleles of the second type collagen gene and the use of diosmin and hesperidin preparations during preconceptional preparation and for the prevention of obstetric and perinatal complications in women with varicose veins is justified.

P081

ANTICOAGULANT TREATMENT IN WOMEN WITH RECURRENT MISCARRIAGES WITH INHERITED THROMBOPHILIA

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Problem statement: Recurrent miscarriage is a major women's health problem, occurs in approximately 1% of couples, with no cause identified in half of cases. The role of inherited thrombophilia(IT) in recurrent early pregnancy loss is uncertain at present and test for thrombophilia are not required as part of the assessment. However, since hypercoagulability might result in recurrent miscarriage, anticoagulant agents could potentially increase the odds of live birth in subsequent pregnancies. The aim of this study is to assess the effect of anticoagulant treatment on preventing future pregnancy loss in women with recurrent miscarriages and IT. **Methods:** Online searches of Pubmed, DARE and the Cochrane Library databases. We used MeSH terms for search in PubMed: "recurrent miscarriage" and "thrombophilia". Selection criteria: guidelines, randomised controlled trials(RCT) and systematic review that assessed the benefits of anticoagulant treatment on the live birth (LBR) in women with recurrent miscarriages and inherited thrombophilia. Interventions included aspirin and low molecular weight heparin (LMWH). The articles date of publication was restricted to the past 10 years and only studies in Humans were selected. No language restrictions were used. **Results:** 130 records were evaluated. After screening the titles and abstracts of all the records and removing the duplicates, we excluded 122 search results, as they were ineligible according to the predefined criteria. Finally, we included 3 systematic reviews and 2 RCT. Most of the studies were established as having a moderate methodological quality. The results suggest that anticoagulants did not have a beneficial effect on LBR, regardless of which anticoagulant was evaluated. Only one RCT demonstrates the benefit of LMWH on improving LBR by compared to control. However, this is to be considered with caution, since the overall numbers of participants in the studies were small. **Conclusion:** Despite the lack of benefit of LMWH preventing future pregnancy loss, anticoagulant therapy is commonly prescribed for women with a history of recurrent miscarriage. This research suggests that the treatment of women with recurrent miscarriage and IT has not been adequately studied and remains to be validated with large prospective randomised trials. So, no recommendations concerning treatment efficacy can be made.



P082

TYPE OF CONCEPTION IN TWIN PREGNANCIES - OBSTETRIC AND NEONATAL IMPACTS AT THE MOMENT OF DELIVERY

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Problem statement: Twin pregnancies have a variable incidence throughout the world, but it has globally increased due to the advancing maternal age and the use of fertility treatments and assisted reproductive technology (ART). Some studies demonstrated that twins born after ART pregnancies are at a higher risk of perinatal morbidity and mortality, such as birth defects and low birth weight. The research aim is to compare maternal and neonatal complications between spontaneous and ART pregnancies. **Methods:** The retrospective analysis of all twin pregnancies delivered at the Hospital de Braga between January 2004 and June 2019. Triplets and stillbirths were excluded. 616 cases were analysed for demographic data, type of conception, chorionicity, gestational age at birth, delivery route and perinatal morbidity. Using SPSS Statistics version 23.0, a comparative analysis between groups was done, evaluating possible associations. **Results:** 517 (83,93%) were spontaneous and 99 (16,07%) were ART pregnancies. From the data analysis, mean maternal age proved to be significantly higher at the ART pregnancy group: 31,28 vs 34,16 years (p value 0.001). No difference was observed between spontaneous and ART pregnancies, respectively, regarding mean gestational age 35,03 vs 35,20 weeks (p value = 0.972), weight of first fetus 2269,24 vs 2303,35g (p value = 0,739), weight of second fetus 2205,69 vs 2054,34g (p value = 0,209) and birth weight discordance 11,69 vs 14,15% (p value = 0,148). About the route of delivery, 66,7 % of ART pregnancies and 62,3% of spontaneous were caesarean (p value = 0,627). Regarding APGAR score the results obtained were not statistically different, except at 5th minute on second fetus (p value = 0,016): means of 9,65 e 9,77 in spontaneous and ART pregnancies, respectively. **Conclusion:** With the advancing maternal age the physiological reduction in fertility leads more women to use ART, as verified in our research. Although some studies suggest that worse neonatal outcomes are associated with ART pregnancies, in our investigation, this difference was not verified. Greater figures of caesarean section in ART pregnancies, which can be explained by the increased maternal age and morbidity of women that use ART, although it was not statically significant.

P083

D VITAMIN DEFICIENCY AMONG DANISH PREGNANT WOMEN - A NEED FOR AN INCREASED SUPPLEMENTATION IN PREGNANCY?

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Problem statement: Vitamin D deficiency is associated with an increased risk of pregnancy complications related to placental function like Intrauterine Growth Retardation (IUGR), Pre-eclampsia (PE) and gestational diabetes, although the underlying mechanisms are far from elucidated. Pregnancy complications

increase the risk of preterm delivery, perinatal morbidity and mortality. In worst case, especially PE can be fatal for the pregnant women. Accumulating evidence links exposure to pregnancy complications and vitamin D deficiency itself to long-term health problems. Among other, affected children have a higher risk of asthma, cardiovascular disease, diabetes, obesity, schizophrenia, neurodevelopmental problems and multiple sclerosis. This underlines the need for sufficient vitamin D supply during pregnancy where the fetus is highly dependent of maternal vitamin D supply. The aim of this study was to investigate prevalence of vitamin D deficiency and relationship with maternal lifestyle and pregnancy outcomes. **Methods:** A total of 223 pregnant women were included in a prospective cohort, when attending the national prenatal screenings program (week 10-13, 94% participation), June-December 2016. Plasma 25(OH)D level was determined and lifestyle information obtained upon inclusion and correlated to pregnancy outcomes. Placental samples were collected to assess vitamin D metabolism by qPCR. **Results:** Though the majority (92%) followed official recommendations i.e. a 10µg daily vitamin D supplementation, 43.8% was vitamin D deficient (25(OH)D75 nmol/L), 12.1% and 1.8% respectively were severely (25(OH)D50 nmol/L) or very severely deficient (25(OH)D25 nmol/L). Deficiency (25(OH)D75 nmol/L), was more common (51.8%) among women with BMI30. Maternal 25(OH)D was 45.6% and 13.3% below average in IUGR and PE pregnancies, albeit only significant for IUGR ($p=0.007$). Increasing maternal Body-Mass-Index (BMI) was correlated with increased mRNA expression of the vitamin D degrading enzyme CYP24A1 ($p=0.003$, $n=30$), but expression of the activating enzyme CYP27B1 was not significantly affected. **Conclusion:** Vitamin D deficiency is common in Danish pregnant women despite high adherence to official guidelines indicating that current guidelines might be insufficient. Women with high BMI are especially affected, and may have an altered placental vitamin D metabolism. Future studies should investigate the benefits of increased vitamin D supplements with regard to obstetric outcomes and underlying changes in placental vitamin D metabolism.

P084

BIOMETRIC DATA: BIPARIETAL DIAMETER, HEAD CIRCUMFERENCE, ABDOMINAL CIRCUMFERENCE, FEMUR LENGTH IN OUR POPULATION (PORTUGAL)

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Objective: Biometric data - biparietal diameter (BP), head circumference (HC), abdominal circumference (AC), femur length (FL) have growth reference curves - known as percentiles - are now often used as reference for clinical evaluation. The aim of this work is to obtain a normal growth curve of each parameter - realize the average percentile of each parameter - in our population between 19th and 24th weeks of gestation and compare the values obtained with other published reference values. **Methods:** Analysis of all ultrasounds performed between 19th and 24th weeks of gestation at the Center for Diagnosis and Prenatal Therapy of Centro Hospitalar Universitário do Algarve, Hospital de Faro, Portugal between 1 January 2017 and 31 December 2018. Biometric data selected were: biparietal diameter (BP), head circumference (HC), abdominal circumference (AC), femur length (FL), and gestational age. **Results:** All parameters are being analyzed to create the growth curves of the study population. **Conclusion:** Each parameter growth reference curves play an important role in clinical decisions, therefore they must be representative of the population in which are being applied. It is essential the measures we use as reference reflect the distribution of the population we are working with in order to avoid over diagnosis and under diagnosis of some pathologies that lead to changes in fetal growth.



P085

FETAL GROWTH CURVES IN THE SECOND TRIMESTER- ARE THERE DIFFERENCES IN THE DIFFERENT REGIONS?

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Problem statement: Intrauterine growth reference curves - known as percentiles - are now often used as reference for clinical evaluation and decision attending to their correlation with fetal and neonatal outcomes. The aim of this work is to obtain a normal growth curve between 19th and 24th weeks of gestation and compare the values obtained with other published reference values. **Methods:** Analysis of all ultrasounds performed between 19th and 24th weeks of gestation at the Center for Diagnosis and Prenatal Therapy of Centro Hospitalar Universitário do Algarve, Hospital de Faro, Portugal between 1 January 2017 and 31 December 2018. Biometric data selected were: biparietal diameter (BP), head circumference (HC), abdominal circumference (AC), femur length (FL), weight (HADLOCK formula) and gestational age. **Results:** All parameters are being analyzed to create the growth curves of the study population. **Conclusion:** Intrauterine growth reference curves play an important role in complex clinical decisions, therefore they must be representative of the population in which are being applied. It is essential the measures we use as reference reflect the distribution of the population we are working with in order to avoid over diagnosis and under diagnosis of some pathologies that lead to changes in fetal growth.

P086

LABOR PATTERNS IN WOMEN UNDERGOING VAGINAL BIRTH AFTER CESAREAN DELIVERY IN SHANGHAI, CHINA

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Problem statement: The universal two-child policy has been introduced in China since 2016. The demand for having a second child has been increasing recently. The high caesarean delivery rate in earlier years had made a high proportion of pregnant women with a previous caesarean section. Some of those multiparous women want to attempt a vaginal birth after caesarean delivery (VBAC). Exploring labor characteristics of women undergoing VBAC may be clinically useful for intrapartum management as well as prenatal counseling. **Methods:** In a cross-sectional survey at 16 hospitals in Shanghai from January to June, 2016, we compared labor duration of first and second stage among 54 women undergoing VBAC, 3203 nulliparous women and 1390 multiparous women with one previous vaginal birth. We included pregnant women with singleton gestations and vertex presentation, and who delivered at or after 28 completed weeks of gestation or with a newborn's birth weight of at least 500g. Intrapartum stillbirths were excluded from the study. **Results:** Overall and first-stage labor duration for VBAC were comparable to multiparae undergoing a second vaginal birth (overall labor duration: 254min vs 255min, $P=0.909$; first stage: 225min vs 240min, $P=0.510$), but significantly shorter than nulliparous women (overall labor duration: 254min vs 450min, $P<0.001$; first stage: 225min vs 405min, $P<0.001$). The median second-stage of labor duration was significantly shorter for than that of primiparae (17 min vs 29min, $P<0.001$), but longer than that of multiparous (17min vs 10min, $P<0.001$). **Conclusions:** Labor duration for VBAC was shorter compared to nulliparous labor. The labor pattern of second stage in women undergoing VBAC was longer than that of multiparae undergoing a second vaginal birth. These findings on labor progress in VBAC should help obstetricians to manage labor in order to avoid unnecessary interventions. Pregnant women with one previous caesarean would be encouraged to attempt a trial of labor if they know that the labor duration could be shorter than nulliparous women. Disclosure of Interest: The authors declare no competing

interests.

P087

PATHOMORPHOLOGICAL AFTERBIRTH PECULIARITIES IN EARLY FORM OF INTRAUTERINE FETUS GROWTH RESTRICTION

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Problem statement: Early form of intrauterine fetus growth restriction (IFGR) needs fetus state clinical-CTG-USG-Doppler monitoring, respiratory distress syndrome prophylaxis, pregnancy prolongation till fetus distress, which leads to iatrogenic preterm delivery. Pathomorphological explanation of clinical pathology is important for IFGR prevention. **Materials of research:** were 35 case records of women with early form of IFGR without preeclampsia and their afterbirths. Pregnancies have finished by cesarean section in 30-32 weeks with live births. **The methods of research:** were clinical, CTG, USG, Doppler, morphological, statistical methods. **Results:** Nulliparous women formed 80,0±6,86 %. Primary infertility, STI, inflammatory genital diseases, spontaneous or missed abortions were in anamnesis in 77,14±7,2 % of women. IFGR <3th percentile was in 14,29±6,0 %, IFGR <10th percentile correspondingly in 85,71±6,0 %. Absent or reversed end diastolic flow in both umbilical cord arteries were accordingly in 22,86±7,2 % and 77,14±7,2 %. Acute inflammatory changes in fetal membranes have been found out in 88,57±5,46 %: acute parietal deciduitis in 54,29±8,54 %, acute chorioamnionitis in 8,57±4,8 %, purulent membranitis in 8,57±4,8 %, membranes infiltration in 17,14±6,46 %. Acute inflammatory changes of umbilical cord have discovered in 22,86±7,2 % (the hallmark for fetal inflammatory response syndrome): phlebitis/periphlebitis in 8,57±4,8 %, arteritis in 5,71±3,98 %, purulent funisitis in 8,57±4,8 % (also cord edema in 14,29±6,0 %, vein dilatation in 25,71±7,5 %, perivascular hemorrhages in 25,71±7,5 %). In placenta acute placental chorioamnionitis in 34,29±8,14 %, basal deciduitis in 34,29±8,14 %, subchorial and/or central leukocyte-fibrin intervillitis in 40,0±8,4 %, intervillous space thrombosis in 37,14±8,29 %, subchorial hemorrhages in 5,71±3,98 %, acute villitis in 8,57±4,8 %, acute placentitis in 5,71±3,98 %, villi dyschronosis in 91,43±4,8 %, hypo/avascularization with villi fibrosis in 85,71±6,0 %, true villi infarctions in 54,29±8,54 %, pseudoinfarctions in 45,71±8,54 %, placenta petrification in 22,86±7,2 % of cases have been found out. **Conclusion:** Morphological signs of acute ascendant intrauterine infection, chronic placental insufficiency and fetus hypoxia in IFGR afterbirths were discovered. One of the directions of IFGR prevention is preparation to pregnancy of women with IFGR risk factors, preconceptional research of vaginal/cervical microbiota with correction of disturbances, treatment of STI and probiotics prescription. Conflict is absent.

P088

PREGNANCY OUTCOMES IN WOMEN WITH ASYMPTOMATIC BACTERIURIA

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Problem statement: Asymptomatic bacteriuria (AB) is a common complication of pregnancy, described in 6-10% of the patients. One of the common opinions that AB can increase the likelihood of urinary tract infection and have negative impact both for the mother and the fetus. Therefore AB is being treated [1]. Still, those recommendations have a low level of evidence. Also there are data that AB is not associated with increased incidence of premature labor and low birth weight [2]. **Methods:** We performed chart review of 1600 pregnant patient and identified 132 (9,2%) women with a diagnosis of AB. Two urine cultures were performed in 3% of women, in other cases diagnosis was not performed correctly. 79% of patients received treatment. 21% did not receive therapy for various reasons. 25% of treated patient received antibiotics and 75% phytotherapy. **Results:** 100% of patient had some complications of pregnancy. Anemia diagnosed in 48% of patients, recurrent anaerobic vaginitis in 27%. In 36% of the cases premature rupture of membranes was noted, further complicated with hypotonic uterine dysfunction in 27%. Acute intrauterine hypoxia was noted in 17% of cases and C-section was performed in 20% of the patients. Perinatal complications were described in 42% of the newborns. **Conclusion:** Any patient with a suspected AB should be closely monitored, given risk of various perinatal complications. **References:** 1 Grabe M. (chairman), Bjerklund-Johansen E., et al. Guidelines on Urological Infections. European Association of Urology. – 2013 – P.106 2. Kazemier BM., Koningstein FN., et al. Maternal and neonatal consequences of treated and untreated asymptomatic bacteriuria in pregnancy: a prospective cohort study with an embedded randomised controlled trial. *Lancet Infect Dis.* – 2015. – № 15(11) – P. 1324-33

P089

EXPRESSION OF GENETIC MARKERS OF ENDOTHELIAL PATHOLOGY IN PREGNANT WOMEN

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Problem statement: Pregnancy considers to be well-established risk factor for venous system disorders. The compound of cardiovascular changes during pregnancy provides significant load on veins, which increases with gestational age and may be accompanied by venous endothelial damage. This in turn can lead to the development of perinatal complications associated with endothelial dysfunction. The detection of biochemical markers of venous endothelial dysfunction may help early diagnosis of pregnancy complications and expand the possibilities of preventive therapy. The goal: to study the features of expression of markers of endothelial vein dysfunction in women depending on pregnancy outcomes. **Methods:** There were 100 pregnant women in whom the expression of adhesion molecules ICAM-1, VCAM-1 and hypoxia gene HIF 1 were determined in the dynamics of pregnancy. Analysis of gene expression was performed by real-time PCR using commercial probes and primers (Applied Biosystems, Hs00234077_m1) on a CFX96 thermocycler (BioRad, USA). The reference gene used gene ACTB (Hs01060665_g1). At the end of pregnancy, women who gave birth to children with pathology of the early neonatal period were identified. The analysis of ICAM-1, VCAM-1 and hypoxia gene HIF 1 was carried out depending on pregnancy outcomes for the fetus. **Results:** In women who gave birth to children with complications of the early neonatal period the expression of the cell adhesion molecule ICAM1 is 6.1 times higher than in women who gave birth without complications. Such dynamics is observed in the expression of Hif1a gene – its expression is higher by 9.7 times in women who

gave birth to children with pathology. VCAM 1 gene activity was not detected in any study group. **Conclusion:** The study of the expression of adhesion molecules ICAM-1, VCAM-1 and hypoxia gene HIF 1 demonstrated promising value for predicting complications of the neonatal period.

GYNECOLOGICAL ONCOLOGY

P090

DISTRIBUTION OF NATURALLY-OCCURRING IGG ISOTYPES TO hCG AND ITS SUBUNITS IN PATIENTS WITH OVARIAN CYST

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Problem statement: Among the gynecological cancers, ovarian cancer is characterized by the highest rate of fatality, mainly due to late stage diagnosis. We have recently proposed that autoantibodies to human chorionic gonadotropin (hCG) are characteristic for the benign ovarian cyst, but not an ovarian cancer and could play a role of a diagnostic and prognostic biomarker. In this study we have investigated the subclass usage of naturally occurring autoantibodies to hCG and its subunits in patients with ovarian cysts. **Methods:** Blood sera was collected from 12 female patients diagnosed with ovarian cyst, aged 22-61, after ethical permission and informed consent. Using enzyme-linked immunosorbent assay (ELISA) it was confirmed that the sera contained appreciable levels of IgG autoantibodies to any of following antigens– hCGαβ, hCGβ, hCGα, hCGβ C-terminal peptide (hCGβCTP) and hCGβ core fragment (hCGβCF). The sera was then tested for the IgG subclass distribution by indirect ELISA.

Results: We have established the overwhelming prevalence of IgG2 subclass in the pool of autoantibodies to all tested antigens. The optical density (OD) of binding of serum IgG2 autoantibodies to hCG was 0.252888±0.099656, to hCGβ 0.293045±0.187829, to hCGα 0.236625±0.079578, to hCGβCTP 0.314708±0.154222, to hCGβCF 0.152583±0.032702. Low levels of autoantibodies of IgG3 isotype to hCGαβ were detected in 7 out of 12 samples (OD= 0.1256±0.0301, p0.0001), to hCGβ in 2 samples (OD= 0.11225±0.00375, p=0.1419) to hCGβCTP in 7 samples (OD= 0.235429±0.137386 (p0.0001), to hCGβCF in 4 samples (OD= 0.123125±0.01291, p0.0001). Anti- hCGα autoantibodies of IgG3 isotype were not detected. Very low levels of autoantibodies of IgG4 isotype were found in some sera. Interestingly, no autoantibodies of IgG1 isotype to any of the tested hCG subunits were found in the sera of patients with ovarian cyst. **Conclusion:** Our data demonstrated that the overwhelming majority of autoantibodies in the sera of patients with ovarian cyst, binding to hCG and its subunits belong to the IgG2 isotype thus indicating that they might be directed against carbohydrate antigens within highly glycosylated hCG. Further investigation of the protective role of anti-carbohydrate autoantibodies against ovarian cancer may lead to the development of novel tumour prevention strategies.

P091

ROUTINE FOLLOW-UP IN WOMEN CONSERVATIVELY TREATED FOR ENDOMETRIAL HYPERPLASIA MUST BE RECOMMENDED

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Problem statement: Endometrial hyperplasia characterized by excessive proliferation of the endometrium is strongly related to the



development of endometrial carcinoma (EC). There is no standardized follow-up and no data available to estimate risk of subsequent EC or atypical hyperplasia (AH) in Danish women initially diagnosed with all types of endometrial hyperplasia. Therefore, the aim of this study is to investigate the long-term risk of AH and EC in Danish women initially diagnosed with all types of endometrial hyperplasia and to evaluate the need for long-term specialized follow-up. **Methods:** A total of 243 women were diagnosed with endometrial hyperplasia at the Regional Hospital of Randers, Randers, Denmark between 2000 and 2015. Women who did not have a hysterectomy within 3.5 months of their initial diagnosis with endometrial hyperplasia (n=102), were recruited for this study. Transvaginal ultrasound examination and office mini-hysteroscopy with biopsies were performed in all non-hysterectomized women. **Results:** A total of 16 women were diagnosed with either AH or EC during follow-up. AH/EC was diagnosed in 7% (5/74) initially diagnosed with simple hyperplasia without atypia (median follow-up of 5.2 years) and in 35% (7/20) with complex hyperplasia without atypia (median follow-up of 4.6 years). More than half of these women (simple: 80%, complex: 57%) were diagnosed with AH/EC more than one year after initial diagnosis, but only one was diagnosed later than 5.2 years. EC was diagnosed in 50% (4/8) of women initially diagnosed with AH (median follow-up of 2.3 years). **Conclusion:** The risk of being diagnosed with AH or EC more than five years after initial diagnosis with endometrial hyperplasia without atypia seems to be low in Danish women. Specialized follow-up more than five years after diagnosis with endometrial hyperplasia without atypia may not be necessary.

P092

INHIBITORY EFFECT OF TRADITIONAL KOREAN MEDICINE ON THE RECURRENT ENDOMETRIOSIS AFTER LAPAROSCOPIC ASSOCIATION OF CYP19A1 GENE RS2414098 SINGLE NUCLEOTIDE POLYMORPHISM WITH THE RISK OF ENDOMETRIAL CANCER

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Aim: Determination of the frequency of polymorphism of the CYP19A1 gene (rs2414098) in patients with endometrial cancer and healthy women living in the Republic of Tatarstan (Russia). **Methods:** The study included 60 patients with endometrial cancer and 101 women without endometrial pathology. The age of the subjects ranged from 41 to 91 years. The SNP of the CYP19A1 gene (rs2414098) was determined by real-time polymerase chain reaction. We ran the χ^2 test and evaluated the odds ratio. **Results:** It was found that the level of endometrial cancer was higher in the group of people with the C allele (OR = 1.88, 95% CI 1.15 - 3.06, p = 0.01) and the C/C genotype (OR = 2.11, 95% CI 1.10 - 4.05, p = 0.04) SNP gene of the CYP19A1 molecule (rs2414098). The prevalence of alleles and genotypes was found to be comparable with the European one. **Conclusion:** The presence of the C allele and the C/C SNP genotype of the CYP19A1 molecule is a significant factor that increases the risk of endometrial cancer of women living in the Republic of Tatarstan (Russia). Key words: endometrial cancer, genetic polymorphism, hereditary predisposition.

P093

IS THERE ANY RELATION BETWEEN miRNAs AND OVARIAN CYST TO BECOME OVARIAN CANCER?

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Problem statement: Ovarian cancer is the fifth most important cause of cancer-related deaths among women and the most lethal gynecologic malignancy. Epithelial ovarian cancer (EOC) is asymptomatic and few screening tests are available. In our study, we aimed to find the importance of dysregulated miRNAs in the ovarian cyst and their expression profile difference between ovarian cancer cases. Another goal of our study is to identify novel circulating miRNAs to be used as a therapeutic prediction of EOC. **Methods:** In this study, we studied three different samples: serums of EOC patients, healthy individuals (HI) and benign ovarian cysts (BOC). Their miRNA expressions have been compared by microarray. Microarray data were analyzed according to miRNA expressions the relation between miRNAs target genes and EOC were examined by bioinformatic tools. 75 and 66 significantly dysregulated miRNAs were identified by microarray in BOC vs. EOC and BOC vs. HI comparison, respectively. **Results:** We focused on common miRNAs that found in both comparison and finally, 46 important miRNAs were detected which can represent the only common sample group, BOC. After these findings, we also considered miRNA profiling in EOC and HI, and surprisingly any common miRNAs were found with these 46 miRNAs. Thus, we analyzed them depending on their potential importance on BOC pathogenesis. After bioinformatics analysis, our findings indicated that there are several biological processes and pathways which can be considered to be related to BOC development. **Conclusion:** Several miRNAs might be evaluated to significant for malignant transformation from BOC to EOC depending on their targets genes and pathways. Thus, our study can lead further studies to investigate malignant potential of the ovarian cyst to enable prediction, diagnosis and disease surveillance.

P094

REDUCTION OF BONE MINERAL DENSITY AND RISK OF OSTEOPOROSIS IN GYNECOLOGIC CANCER PATIENTS

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Problem statement: The purpose of this study is to evaluate the risk of osteopenia and osteoporosis in patients with cervical, endometrial and ovarian cancer on bone mineral density (BMD). **Methods:** From March 2010 to December 2016, study retrospectively reviewed the medical records of women who were treated at Haeundae Paik Hospital. We compared the lumbar spine and femur neck BMD of 243 women with gynecological cancer and 240 controls. Patients with cervical cancer (n=105), endometrial cancer (n=63) and ovarian cancer (n=75) among gynecological patients with cancer (n = 243) were treated with surgery, chemotherapy and/or radiotherapy. As a control group, women with postmenopausal, who did not diagnosed with gynecologic malignancy were selected. BMD was measured by dual energy X-ray absorptiometry (DXA) in the lumbar spine and femur neck. According to the criteria of the WHO, osteopenia was diagnosed as T-score of -1.0 to -2.5, and osteoporosis as T-score below -2.5. **Results:** As a result of the research, the mean T-score of lumbar spine was -0.7 (SD = 1.5) in the gynecologic cancer group and -0.3 (SD = 1.5) in the control group (P = 0.001). Compared the each level of the lumbar spine, only the 1st lumbar spine (L1) show a significantly lower bone density in the gynecologic cancer group than control (P = 0.019). Also, T-score of the femur neck was -0.9 (SD = 1.2) in the gynecologic cancer group and -0.6 (SD = 1.1) in the control group (P = 0.01). Compared with according to the cancer type, the BMD of cervical cancer patients was significantly lower at first and second lumbar spine (L1, L2) and femur neck compared to the control group. In ovarian cancer patients, BMD of each level of lumbar spines and the mean of lumbar spines were significantly lower than control group. The changes in BMD after surgical treatment, chemotherapy, or radiotherapy were



significantly lower in endometrial cancer patients than in cervical and ovarian patients. **Conclusion:** The prevalence of osteopenia and osteoporosis in the gynecologic cancer was 60.5% and 50.8%, respectively. The risk of osteoporosis is high in the gynecologic cancer. Disclosure: None declared

P095

CDK12 REGULATES GENE EXPRESSION OF DNMT1 & ERBB3 BY ALTERING TRANSCRIPTION OF MIR-152

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Objective: The DNA-damage-response (DDR) pathway is a cellular mechanism which has evolved to protect cellular integrity by detection and repair of DNA lesions. It was demonstrated that the cyclin-dependent kinase 12 (CDK12) maintains genome stability via regulation of transcription of DDR genes, specifically, BRCA1, RAD51 and others. Importantly, down-regulation of the CDK12 caused induction of the 53BP1 and γH2AX foci and accumulation of cells in the G2-M phase of the cell cycle. Since various microRNA (miRNA) are situated within coding genes, such as DDR, we hypothesize that expression of some of them might be also affected by CDK12 depletion. **Methods:** A pilot study focused on identification of candidate miRNAs in ovarian cancer cells that might be significantly altered in CDK12 deficient cells. Indeed, downregulation of CDK12 protein level led to aberrant expression of several miRNAs. Among studied miRNAs, the level of miR-152 was significantly elevated. By using predictive algorithm, several proteins that might be targeted by miR-152 were examined. **Results:** We confirmed that upregulated expression of miR-152 leads to decreased expression of DNMT1 (DNA methyl transferase 1), RICTOR and MET proteins, which are often found deregulated in rather wide spectrum of oncogenic diseases. Defects in methylation of miR-152 has been observed in several cancers and studies have proven an on/of loop between expressions of DNMT1 and miR-152. In addition to DNMT1, the protein level of ERBB3 was also affected by downregulation of CDK12 in various ovarian cancer cells, such as PEO1, COV362 and OVCAR5. **Conclusion:** We speculate that CDK12 participates in DDR machinery by two distinct mechanisms, either by orchestrating transcription of DDR genes or by stabilization of DNMT1 protein by blocking expression of miR-152 targeting DNMT1. *The project is supported by the grant of the Ministry of Health AZV16-34152A.*

P096

OUTCOMES OF SURGICAL MANAGEMENT OF ENDOMETRIAL HYPERPLASIA WITHOUT ATYPIA

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Introduction: First line treatment of endometrial hyperplasia without atypia is medical therapy with progesterone. However, there remains a group of patients who choose surgical management due to reasons such as contraindications to progesterone, other indications for surgery, and patients' preferences. **Methodology:** Women diagnosed with endometrial hyperplasia without atypia who underwent surgical management as first line treatment, in KK Women's and Children's Hospital, between April 2015 to March 2016 were included in this study. **Results:** 262 patients were diagnosed with non-atypical hyperplasia. 18.3% (n=48) underwent hysterectomy as first line management, with the average time to surgery being 85.3 days. The mean age was 51 years old, with 16 patients (33.3%) who were post-menopausal. The mean body mass index was 26.8. 9 patients

(18.7%) had diabetes mellitus, 3 patients (6.25%) were on tamoxifen for breast cancer, 1 (2.1%) had polycystic ovarian syndrome, and 1 (2.1%) was diagnosed with granulosa cell tumor at the same time. Majority presented with abnormal uterine bleeding or postmenopausal bleeding (72.9%) with the remaining presenting with thickened endometrium, endometrial polyp, or endometrial cells on pap smear. 18 patients (37.5%) chose surgical management in view of other indications. Surgery was uncomplicated except for 1 patient (2.1%) who had bladder injury during the surgery. 23 patients (47.9%) received progesterone therapy while awaiting surgery. Final histology showed higher grade final histology in 11 patients: 9 were found to have atypical hyperplasia, and 2 were found to have grade 1 adenocarcinoma. 20 patients (41.7%) had hyperplasia without atypia on final histology, and the remaining 16 patients (33.3%) were found to have no hyperplasia. **Conclusion:** Surgical management for hyperplasia without atypia can be considered an option for high risk patients, as our current study shows up to 20% of patients harboring high grade final histology. Disclosures – NIL

P097

MANAGEMENT OF OVARIAN TERATOMAS ASSOCIATED WITH AUTOIMMUNE ENCEPHALITIS: A CASE REPORT AND REVIEW OF THE LITERATURE

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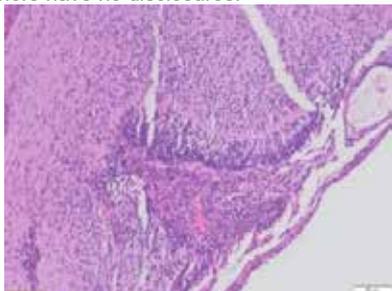
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Problem statement: NMDA encephalitis (NMDAE) is an autoimmune condition characterized by rapidly progressive psychiatric symptoms, cognitive impairment, seizures, abnormal movements, coma, and dysautonomia, sometimes requiring intensive care. Young females are mostly affected, with ovarian teratomas (OT) found in 18-50% of cases. Treatment includes OT resection, however, there is still insufficient evidence of the best management for NMDAE. **Methods:** Case report and literature review. **Results:** Case A healthy 34-year-old female presented with bizarre behavior, emotional lability, disorganized speech and auditory/visual hallucinations for 48 hours. Found severely agitated, tachycardic and with pressured speech. Cerebrospinal fluid (CSF) showed lymphocytic pleocytosis and oligoclonal bands. Extensive metabolic and infectious workup was negative. Pelvic computed tomography scan showed bilateral adnexal masses. Gynecology decided on immediate resection, due to known association of OTs with NMDAE. Pathology revealed bilateral cystic teratomas containing neural tissue. Subsequently, CSF studies showed the presence of NMDA antibodies. Patient was then treated with plasma exchange and Cyclophosphamide. She slowly recovered and was ultimately discharged, 94 days after admission, with minimal symptoms. **Discussion:** Even though OTs are frequent, studies have found no role of screening for NMDA antibodies in patients with OT, and diagnosis requires high clinical suspicion. Some cases of NMDAE without OT might suggest a role for screening for OT development, as some patients might ultimately develop OTs. OT resection is an integral part of treatment. As in this case, it might be appropriate to perform resection in suspected cases, before diagnostic confirmation. There is controversy surrounding performing bilateral oophorectomy despite negative imaging for OT, as some cases subsequently identified OT microscopically. There might not be a specific time window for OT resection, as a case showed improvement even after 11 months since symptom onset. Anesthesiologists should avoid NMDA antagonists such as ketamine to avoid clinical worsening in suspected NMDAE. **Conclusion:** OTs are relatively frequent and mostly benign, however, they can cause significant neurological disease through autoimmunity, as the neural tissue within can trigger an immune response. Awareness of the condition is of extreme importance, as



NMDAE is treatable if promptly diagnosed, but potentially fatal if missed. Authors have no disclosures.



P098

WHICH ULTRASOUND FEATURES OF THE ENDOMETRIUM ARE PREDICTIVE OF MALIGNANCY IN POST-MENOPAUSAL BLEEDING?

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Problem: The aim of this study was to find which ultrasound features of the endometrium could be predictive of endometrial cancer (EC) in women presenting with post-menopausal bleeding (PMB). **Methods:** A prospective study was performed on 47 women with PMB and endometrial thickness (ET) =4mm. The endometrium was evaluated at transvaginal ultrasound (TVUS) with Doppler imaging and gel-infusion sonohysterography (GIS), and the findings (defined as per terminology of International Endometrial Tumour Analysis [IETA] group) were correlated with histological diagnosis obtained at out-patient endometrial sampling (ES) or at hysteroscopy. Univariate and multivariate analysis by logistic regression were performed. **Results:** EC was diagnosed in 5.8% (4/69) of all women presenting with PMB. ET was found to be significantly predictive of EC ($p=0.004$). The endometrial outline (endometrial folds pattern) as seen after GIS was also found to be a significant predictor of EC ($p=0.008$). These two variables together with a multiple vessel vascular pattern of the endometrium on Doppler imaging ($p=0.055$), and a raised body-mass-index (BMI) ($p=0.078$) were incorporated into a logistic regression model to assess prediction of EC. Logistic regression modelling revealed only endometrial outline ($p=0.003$) and ET ($p=0.032$) to be significantly predictive of EC, when the 4 variables were assessed collectively in multivariate analysis. GIS revealed the presence of focal intra-cavity lesions in 63.8% of the women with ET=4mm. Out-patient ES missed 60% of these focal intra-cavity lesions. **Conclusion:** All US features identified as predictive, could be used in combination to estimate EC risk. GIS is a very useful addition to the TVUS investigation as it allows assessment of endometrial outline which is a strong predictor of EC. Statistically derived risk-scores for EC, based on predictive US features, should be one of a series of tests incorporated into clinical algorithms for management of women with PMB. **Keywords:** *post-menopausal bleeding, endometrial cancer, transvaginal ultrasound, endometrial thickness, endometrial outline, gel-infusion sonohysterography.*

P099

OUT-PATIENT ENDOMETRIAL SAMPLING IN THE INVESTIGATION OF POST-MENOPAUSAL BLEEDING; HOW USEFUL IS IT?

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Problem statement: There is no consensus regarding the ideal investigative pathway for post-menopausal bleeding (PMB). Out-patient endometrial sampling (ES) is often one of the tests used but the exact role of this test has not been clearly defined. The literature has shown that ES can be unsuccessful, can provide an insufficient sample or can miss focal intra-uterine cavity lesions altogether. ES

does however detect around 90% of endometrial cancers (EC), in cases of PMB. **Objective:** To assess the value of ES in the investigative pathway of PMB. **Methods:** 69 consecutive women who presented with PMB underwent transvaginal ultrasound including measurement of endometrial thickness (ET). 47 of these had ET=4mm and were included in this prospective study and underwent gel-infusion sonohysterography (GIS). All 47 women had ES at the initial consultation. Some had subsequent hysteroscopic procedures (HY). **Results:** ES detected EC in 4 women. No other EC cases were diagnosed at subsequent HY. ES detected polyp fragments or polyps in 13/47 (27.6%) women. Focal intracavity lesions were seen in 30/47 (63.4%) women during GIS. Sessile intracavity lesions were more common than pedunculated lesions. ES diagnosed a higher proportion of the sessile lesions (38%) than of the pedunculated lesions (20%). ES failed to provide any diagnosis for the intracavity lesion in 60% of focal lesions. **Conclusions:** This study confirms that ES misses a high proportion of focal intracavity lesions and should not be used as the reference test in the investigation of PMB. ES can be easily performed at the initial consultation and can achieve high detection rates of EC early in the investigative pathway. Additionally; in women who have no focal intracavity lesions; a benign ES result may be one of a series of tests which contribute to achieving reassurance of the absence of EC.

P100

ENDOMETRIAL POLYPS AND POST-MENOPAUSAL BLEEDING

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Problem statement: Endometrial polyps are common in women of all ages, especially in post-menopausal women. They are often asymptomatic. They are present in around 15% of women with post-menopausal bleeding (PMB) and in at least a third of the women with PMB who have an endometrial thickness of 4mm or 5mm. Most endometrial polyps are benign; but approximately 5% of them have malignant or pre-malignant disease within. The risk of malignancy within an endometrial polyp increases with age, menopausal status, symptoms of abnormal vaginal bleeding such as PMB, as well as polyp size. Women with PMB who are found to have endometrial polyps therefore appear to require polyp removal. The high prevalence of this focal lesion within the uterine cavity of post-menopausal women has huge implications for the investigative pathway of PMB. Intra-cavity lesions can alternatively be submucous fibroids or focal endometrial cancers. **Methods of diagnosis:** Endometrial polyps can be identified by means of certain suggestive features on transvaginal ultrasound. These include the presence of a bright edge around the polyp where it lies in contact with the endometrial lining; the appearance of small intralesional cystic areas within the polyp; the presence of a pedicle artery or feeding vessel extending from the endometrium into the polyp, and the elicitation of the sliding sign on movement of the ultrasound probe. In addition; intra-cavity lesions can be identified and delineated during sonohysterography when fluid instilled within the uterine cavity provides a negative contrast medium which outlines the intra-cavity lesion. Endometrial polyps can also be directly visualised during hysteroscopy. Outpatient endometrial sampling devices may detach fragments from an endometrial polyp thus allowing histological identification, but often the sampling devices miss the focal lesion entirely. **Conclusions:** The aim of investigating PMB is not primarily to diagnose and treat benign lesions, however, suspected endometrial polyps should undergo complete hysteroscopic removal, to achieve a representative histological diagnosis. Removal of an intra-cavity lesion should be performed hysteroscopically to ensure complete removal of the polyp from its base, including any stalk when present. If there is no suspicion of endometrial malignancy, the hysteroscopic procedure need not be fast-tracked.



P101

CLINICAL ALGORITHM FOR INVESTIGATION OF POST MENOPAUSAL BLEEDING**Michele Montanaro-Gauci***Mater Dei Hospital &, University of Malta., Malta*

Problem statement: There is no consensus regarding the ideal clinical pathway for investigation of post-menopausal bleeding (PMB). Many centres use an endometrial thickness (ET) measurement 4mm, taken during transvaginal ultrasound (TVUS), as the initial test to identify PMB patients who can be reassured about the absence of endometrial cancer (EC). For the remaining PMB patients, further testing is required. The exact nature and sequence of subsequent tests varies. **Methods:** The literature pertaining to investigation of PMB was reviewed and a clinical algorithm was devised. The algorithm applies to the clinical scenario where initial investigation of PMB is by TVUS +/- sonohysterography (SHG), which can be followed immediately by out-patient endometrial sampling (ES). A hysteroscopic procedure (HY) which allows polypectomy, targeted endometrial biopsies and/or endometrial curettage; would be the next step in the investigative pathway. **Results:** In the investigation of PMB, women with ET15mm are classified as high-risk and fast-tracked for HY. The remaining women with ET 4-15mm undergo detailed TVUS of the endometrial cavity with Doppler imaging and SHG, and the Risk of Endometrial Cancer (REC) score is applied; out-patient ES is also performed. Subsequent management will depend upon the REC score, the presence or absence of a focal intra-cavity lesion and the result of the out-patient ES. Women with a high risk of EC according to REC score will be fast-tracked for HY. For women with no focal intra-cavity lesion, the final negative likelihood ratio (LR) of a REC score of zero and a benign ES result, could provide reassurance of absence of EC. Women with a focal intra-cavity lesion and/or with intermediate risk according to REC score, whose ES result is additionally benign, will undergo non-urgent HY. **Conclusion:** The tests used in this clinical algorithm include: ET4mm, ET15mm, REC score=0, REC score=4, out-patient ES, HY with representative endometrial cavity samples. By means of the algorithm, the fast-tracked, gold-standard HY test is reserved for women at highest risk of EC. Reassurance of absence of EC may be achieved in some, by a low REC score, together with a non-malignant out-patient ES result.

P102

INCIDENCE OF HIGH GRADE CERVICAL INTRAEPITHELIAL NEOPLASIA IN WOMEN WITH NORMAL AND ABNORMAL PAP SMEARS: A-3 YEAR FOLLOW UP IN THAMMASAT UNIVERSITY HOSPITAL**Awassada Punyashthira¹**, Kanokwan Promchit¹, Nattapat Kanjanawilai¹, Junya Pattaraarachachai², Kornkarn Bhamarapravatanana³, Komsun Suwannarurk¹¹*Obstetrics and Gynecology, Faculty of Medicine, Thammasat University, Klong Luang, Thailand*²*Chulabhorn International College of Medicine, Thammasat University, Klong Luang, Thailand*³*Preclinical Science, Faculty of Medicine, Thammasat University, Klong Luang, Thailand*

Background: Cervical cancer is the third most malignancy among Thai women. Cervical intraepithelial neoplasia (CIN)2/3 was precancerous of cervical cancer that could be conservative treatment. Precise recurrent investigation tool was an important method. **Objective:** The aim of this retrospective study was to investigate the regression rate of CIN2/3 after three years of treatment. **Materials and methods:** Ninety cases of CIN2/3 from participants who underwent cervical cancer screening by co-testing method and treated between July 2013 and June 2016 at Gynecologic Clinic, Thammasat University Hospital, Pathum Thani, Thailand and affiliated clinics were recruited. Demographic data, method of treatment and co-testing report of participants were recorded for three consecutive years. **Results:** A total of 2,144

women during the period were recruited. After exclusion criteria, 1,505 cases were enrolled in the study. Cases who had abnormal co-testing had lesser mean age, more sexual partner and sexual transmitted diseases than those who had normal co-testing. Ninety-nine percent of the negative testing group had negative co-testing at the end of three years period. Ninety cases were diagnosed with CIN2/3. The regression rate of CIN2/3 at two and three years follow up after treatment were 97.8% (88/90) and 95.6% (86/90), respectively. Additional four cases who had negative co-testing at first and second year were diagnosed of CIN2/3 at third year of follow up period. **Conclusion:** The regression rate at two and three years follow up were 97.8 and 95.6 percent, respectively. Overextending by three consecutive co-testing follow up of CIN2/3 after treatment should be concerned. **Keywords:** CIN, Pap smear, high grade, follow up, excision procedure, ablation

P103

RADIOFREQUENCY ABLATION (RFA) LIMITS IN THE EMERGENCY HAEMOSTASIS IN BLEEDING TUMOURS OF THE UTERINE CERVIX**Maria-Manuela Ravas^{1,2}**, Augustin Marian Marincas^{1,2}, Virgiliu Mihail Prunoiu^{1,2}, Eugen Bratucu^{1,2}¹*Oncological Surgery, Bucharest Oncological Institute, Bucharest, Romania*²*Surgery, Carol Davila University, Bucharest, Romania*

Problem statement: Cervical cancer benefits from standard treatment such as: surgery and radio/chemotherapy. Recently, for the aggressive cancer forms which are resistant to radio/chemotherapy forms, IB-IV stages, thermally ablative treatments are used to destroy tumours using various sources of energy. The study aims to establish the place that radiofrequency ablation (RFA) holds in the current treatment protocols of cancers of the uterine cervix. **Methods:** We performed a 10-year retrospective study (2008-2018) in which we analysed the use of RFA, with selective criteria for aggressive tumors of the uterine cervix which bled and were associated with acute secondary anaemia (Hb=7-11g/dl). 96 patients with ages between 39 and 73 were evaluated with stages from IB to IV and 78 applications were done. **Results:** The results obtained underlined the haemostatic qualities of the procedure, RFA being the only non-surgical method which can achieve quicker bleeding control, in comparison with either external irradiation, or brachytherapy, which obtain the same effects, but no sooner than 12/48 hours). In 92 patients, haemostasis was obtained by the first RFA, but in 2 patients the procedure had to be repeated and in other 2 patients ligation of vascular pedicles was needed. **Conclusions:** RFA is useful in the treatment of cancers of the uterine cervix, in achieving emergency haemostasis, and it can be considered a minimally invasive technique in neo-adjuvant complementary treatment of tumour palliation. The method can be associated with surgery and / or radio / chemotherapy, although it might be limited by the advanced stage of the disease when other methods of haemostasis may be used. We consider that RFA will be able to have an important place in oncology treatment protocols. Therefore, we suggest: Adding to the current treatment protocol a simple and quick haemostatic technique (RFA) in bleeding tumors of the uterine cervix which associate acute anaemia, Establishing clinical and paraclinical criteria as indicators of tumor aggression and responsiveness to treatment. There are no conflicts of interest **Key words:** cervical cancer, radiofrequency, haemostasis, hyperthermia

P104

CASE REPORT – ANAPLASTIC LARGE CELL LYMPHOMA IN WOMEN WITH BREAST IMPLANTS**Anna Salvador**, Gabriela Sevidanes, Camila Cinquetti, Renata Saliba, Enaldo De Lima, Marco Antônio Dias Filho, Gnana De Araujo, Maria Luisa Vieira, Henrique Silva*Mastology, Rede Mater Dei de Saúde, Belo Horizonte, Brazil*

Problem statement: A 54 years old female patient presenting unilateral breast prosthesis seroma with related pain after 8 years of prosthesis insertion. **Methods:** Breast puncture was performed in March 2019 which showed presence of hallmark cell suggestive of Anaplastic Large T-Cell Lymphoma associated with breast implant (BIA – ALCL). Patient was submitted to the removal of bilateral peri-prosthesis capsules and immunohistochemistry confirmed Anaplastic Large T-Cell Lymphoma associated with breast implant (BIA – ALCL) restricted to prosthesis surface (in situ). **Results:** BIA – ALCL is a tumor that develops in the capsule that surrounds breast implants. This condition is rare, occurring in 1 in each one million patients. Most patients present seroma with breast edema. A total of 10 to 35% of patients presents limited breast nodule or axillar lymphadenopathy. In general, cases are detected 3 to 19 years after implant insertion. If identified in its “in situ” stage, surgery with the complete removal of the implant and capsule deliveries a good prognosis; therefore, in advanced cases, chemotherapy should be recommended. **Conclusion:** BIA – ALCL is a rare condition but the early identification of the cases allows better prognosis with less spoliation to the patient once chemotherapy might be avoided.

P105

THE EFFECT OF OCTEROTIDE IN POSTOPERATIVE LYMPHOCELE IN GYNECOLOGIC CANCER PATIENTS

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Objective: Gynecologic cancer is usually treated surgically and lymphadenectomy is performed. The most common side effect after lymphadenectomy is lymphocele. Treatments of choice lymphocele effectively have not yet been established. Investigating the effectiveness of octerotide which is a medical treatment option for lymphocele. **Methods:** Retrospective chart review were done and patients with lymphocele after surgery who diagnosed from January 2008 to March 2019 were included. Using and not using octeotide were divided in two groups. Octerotide was injected 100 mcg per day and stopped when PCD decreased, lymphocele decreased on CT, and when patient's symptoms has improved. The amount of PCD was checked daily and CT was followed up after 1-2 weeks of initiating octerotide. **Results:** A total of six patients with lymphocele treated with octreotide were included. Median age was 51 (39-67), with 5 endometrial cancer patients and 1 cervical cancer patients. The median total hospital stay for treatment was 32days (19-68) and median treatment duration time was 8.5days (3-30). The median number of lymph node dissection in primary surgery was 33 (17-54) and one patient underwent para-aortic lymph node dissection. All patients with octerotide, lymphocele did not recur. **Conclusion:** Treatment with octeotide in lymphocele is an effective and safe treatment for the management of lymphocele after lymphadenectomy, but further research is needed to establish optimal dosage and treatment regimens.

GYNECOLOGY

P106

EMERGENCY CONTRACEPTION AMONG YOUTH POPULATION

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Problem statement: Every fourth young woman in Russia has had sexual intercourse by the age of 17, around 40% of them did not use any method of contraception. Emergency contraception (EC) among young people in most cases can prevent unplanned pregnancy. **Objective:** To determine of frequency of EC use and

awareness of EC among young people. **Methods:** The method of questioning was used (36 items). There were questions about gynecological anamnesis, experience in EC usage (female respondents only) and theoretical knowledge of EC (all participants). The questionnaire was presented in social networks and on paper carriers. The questionnaire was filled by 952 young persons (female – 802 (84.2%), male –150 (15.8%)) from various educational institutions, young doctors of different specialties, others. Mean age was 20.7±1.6 years (from 15 to 24 years). The group was a simple random sample. **Results:** Almost 10% of young women had pregnancy in the past, half of them were unplanned. Two thirds of unplanned pregnancies ended with medical abortions. One third of female respondents (32,9%) has used EC at least once, in all the cases they preferred levonorgestrel pills. The prevalence of EC usage grew with the increase of the respondents age. The majority of participants think that administration of EC is justifiable if unprotected sexual intercourse has taken place. Up to 65% of respondents know the right regimen of EC administration, a quarter of the participants have incorrect information, others were unable to answer. The greater part of all participants (63%) have incorrectly assume that repeated use of EC leads to infertility and reduction of effectiveness of EC methods. No one was aware of the possibility of an emergency intrauterine contraceptive introduction after unprotected intercourse. Knowledge of EC among schoolchildren and students of non-medical institutions was the lowest. **Conclusions:** Young people in Russia are highly aware of the existence of EC as such, but they have insufficient knowledge of it. It is highly important to give special lectures on family planning and contraception in schools and universities as it helps young people to maintain their reproductive health by using safe and effective methods of contraception.

P107

ENDOMETRIAL LEUKEMIA INHIBITORY FACTOR EXPRESSION IN WOMEN WITH REPRODUCTIVE DYSFUNCTIONS

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Problem statement: To analyze the endometrial expression of leukemia inhibitory factor (LIF) in women with a history of reproductive dysfunctions. **Methods:** The main group (I) – 121 patients with infertility (n=81) and miscarriage (n=40); the control group (II) – 16 healthy fertile women; all subjects – 20-40 y.o. On 6-8th day after ovulation we performed endometrial biopsy and obtained peripheral blood to asses levels of estradiol (E₂) and progesterone (P). We conducted histological and immunohistochemical (estrogen (ER), progesterone (PR) receptors, LIF expression) analysis of endometrium samples. **Results:** All women had ovulatory menstrual cycle; the serum levels of E₂ (pmol/l) were 692.2±29.1 (I) and 707.4±66.1 (II); P (nmol/l) – 45.1±2.0 (I) and 39.1±4.9 (II). Mid-secretory endomeirum was determined in all healthy women and in 42% (n=51) of the main group. All healthy women showed low glandular ER, PR expression, reduced stromal ER expression, high PR stromal expression in endometrium. Only 44% (n=53) in the main group had the same characteristics of sex steroid receptors expression as the healthy women; 56% (n=68) of cases a disturbed hormone-receptor endometrial “response” was observed. We evaluated LIF expression in the endometrium in the main (I) and healthy (II) groups: in the luminal epithelium (I – 88, II – 16), in glands and stroma (I – 121, II – 16). The frequency of reduced LIF expression in the endometrial glands and stroma was significantly higher (p0.05) in the main group (I) than in healthy women (II): in the glands – 31%, n=37 (I) vs 6%, n=1 (II); in stroma –56%, n=68 (I) vs 13%, n=2 (II). Endometrial LIF expression levels were similar across the reproductive dysfunction types. In women with disturbed



hormone-receptor endometrial interactions (n=68), the frequency of reduced LIF expression was significantly higher (p0.01) vs subjects with normal endometrial hormone-receptor "response": in luminal epithelium – 39%, n=17 vs 13%, n=8; in stroma – 71%, n=48 vs 49%, n=34 respectively. **Conclusion:** Reduced endometrial glandular and stromal LIF expression is determined significantly more often in women with reproductive failures than in healthy fertile women. Endometrial estrogen-progesterone-receptor interactions are significant for the LIF expression activity in the endometrium.

P108

OVARIAN TERATOMA CAUSING RECURRENT SYNCOPE AND ANTI-N-METHYL-D-ASPARTATE RECEPTOR ENCEPHALITIS

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Background: Anti-N-Methyl-D-aspartic acid (NMDA) receptor encephalitis is a rare and potentially fatal form of encephalitis (Chiu et al. 2019). Several case reports describe the condition in association with ovarian teratomas, as neural tissue in the teratoma can secrete anti-NMDA-receptor antibodies (Iemura et al. 2018). The condition causes significant morbidity due to complex neuropsychiatric symptoms (Liang et al. 2017). It is managed with tumour resection, immunotherapy and supportive measures (Acien et al. 2014). **Case:** A 37-year-old otherwise healthy multiparous female presented with a four-day history of recurrent syncope and postural hypotension. She had two previous normal vaginal deliveries. She was taking the combined oral contraceptive pill for contraception. Cardiac and neurological examinations, laboratory investigations, electrocardiogram and intracranial imaging were unremarkable. She was admitted under the medical team for further investigation and empirically commenced on Ceftriaxone, Acyclovir and Fludrocortisone. Despite this treatment, she had ongoing postural hypotension and within forty-eight hours of admission developed acute confusion, agitation and behavioural change. She also experienced déjà vu and odd smells, consistent with partial seizures. She had an abnormal electroencephalogram. Cerebrospinal fluid (CSF) from lumbar puncture demonstrated lymphocytic pleocytosis with mononuclear cells. A diagnosis of NMDA-receptor encephalitis was confirmed with the presence of serum and CSF antibodies. Pelvic ultrasound revealed a heterogenous left ovarian lesion measuring 21x12x19mm with small cystic areas and well-defined echogenic foci suspicious for ovarian teratoma as the cause of her symptoms. She subsequently underwent laparoscopic salpingo-oophorectomy. Histopathology demonstrated a mature teratoma. Tumour markers were normal. She required intensive care admission and treatment with intravenous immunoglobulin and steroids. Her post-operative course was complicated by worsening behavioural symptoms requiring second-line treatment with Rituximab. She remained admitted for six weeks until her behavioural symptoms improved with anti-psychotic and anti-epileptic therapy. **Discussion:** This unusual presentation of anti-NMDA-receptor encephalitis prompted by ovarian teratoma is the first reported case with recurrent syncope as the primary presenting symptom. Furthermore, this case demonstrated refractory symptoms despite treatment, highlighting the importance of early identification and management, which have been associated with prompt improvement and good outcome (Acien et al. 2014). Note: Full list of references to be provided on request

P109

PREECLAMPSIA: UPDATES IN DEFINITIONS AND GUIDELINES

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Problem statement: To focus on recent developments in the definition, diagnosis, prevention, screening and treatment of preeclampsia. **Method:** Data was obtained by scanning evidence-based guides, consensus reports (Cochrane Preeclampsia, World Health Organization, American College of Obstetricians and Gynecologists, Agency for Healthcare Research and Quality, Centers for Disease Control and Prevention, National Heart, Lung, and Blood Institute) and related literature **Results:** Preeclampsia is a complication of pregnancy that affects all systems. Worldwide, this complication remains one of the leading causes of maternal-perinatal morbidity and mortality. Preeclampsia was formerly defined as a disorder characterized by new onset of hypertension and proteinuria typically arising after 20 weeks of gestation in a normotensive woman. Recently, proteinuria is no longer required for the diagnosis of preeclampsia. Preeclampsia is diagnosed hypertension and either proteinuria or hypertension in association with thrombocytopenia, impairment liver dysfunction, new onset of renal impairment, pulmonary edema or cerebral/visual symptoms. Although there are some maternal clinical factors, biophysical and biomarkers to predict preeclampsia in early pregnancy, they are not yet ready for clinical use. Term "mild preeclampsia" is no longer used to describe preeclampsia, since preeclampsia is a dynamic and progressive disease process that can change rapidly. In addition, the term "severe preeclampsia" is replaced with preeclampsia with severe features. The administration of low-dose aspirin has a slight effect to reduce preeclampsia. There is not enough evidence to support bed rest or salt restriction to reduce preeclampsia risk. *The only effective treatment of preeclampsia is to deliver the fetus and the placenta.* Termination of pregnancy and the decision to deliver depend on gestational age, severity of preeclampsia, maternal and fetal conditions and severity of preeclampsia. Delivery is suggested for preeclampsia without severe features after 37 weeks of gestation and in case of preeclampsia with severe features after 34 weeks of gestation. Therapy is essentially based on antihypertensive treatment and magnesium sulfate. To promote fetal lung maturity, a single corticosteroids administration is recommended to preeclamptic women between 24-34 weeks. Also, preeclampsia increase risk of future cardiovascular disease **Conclusion:** New evidence over the past few decades have contributed to a better understanding of the preeclampsia.

P110

THE RELATIONSHIP OF OVARIAN RESERVE AND AUTOIMMUNE THYROID DISEASE IN WOMEN OF REPRODUCTIVE AGE

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Problem statement: Several studies have shown a likely relationship between autoimmune thyroid diseases and reproductive disorders in women, but the results are contradictory, and the pathogenetic mechanisms are not clear. Objective: to compare the ovarian reserve in healthy women of reproductive age with antithyroid antibodies (ATA) and in healthy women of reproductive age without ATA. **Methods:** The following markers of the ovarian reserve were determined on the 2nd-4th days of the menstrual cycle: serum levels of anti-Müllerian hormone (AMH), inhibin B, FSH, LH, estradiol, testosterone and progesterone. The number of antral follicles and the volume of the ovaries were examined by ultrasound. Patients. 70 healthy women of reproductive age in the state of euthyroidism (from 18 to 38 years old). Interventions. Participants were divided into equal groups (n = 35) depending on the status of the presence of antithyroid antibodies (AT-TPO, AT-TG). To determine the predisposition to premature ovarian failure, an analysis of the number of CGG repeats in the FMR1 gene was performed. **Results:** The levels of



estradiol and testosterone significantly differed but the differences were not clinically significant. All evaluated parameters were within the normal range, the main markers of the ovarian reserve (levels of AMG and inhibin B, the number of antral follicles) remained in the normal range. An increase in the number of repeats of CGG in the FMR1 gene was not detected in any of the participants in the study. **Conclusion:** In healthy reproductive aged women, the status of ATA does not have a direct effect on the ovarian reserve. This work was supported by the Russian Science Foundation under Grant №17-75-30035.

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METABOLIC DISORDERS AND THERAPEUTIC OPTIONS FOR POLYCYSTIC OVARY SYNDROME WITH CONCOMITANT THYROID PATHOLOGY

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Problem statement: Autoimmune thyroiditis, hypothyroidism are 5 times more common in PCOS, and the presence of antibodies to the thyroid gland is associated with infertility. Aim: to evaluate the hormonal, metabolic and reproductive status in patients with PCOS and concomitant thyroid pathology: hypothyroidism, diffuse endemic goiter (DEG). **Methods:** 154 women aged 18–40 years with PCOS who did not have thyroid pathology at the time of diagnosis of PCOS: group 1 (51 women did not have concomitant thyroid diseases), group 2 (51 women with DEG, 3 group (52 women with hypothyroidism). PCOS was diagnosed based on the Rotterdam 2003 criteria (ESRHE / ASRM). At the time of inclusion in the study, the duration of PCOS in group 1 was 4.0 ± 0.8 years, in group 2 - 5.8 ± 1.6 years, in group 3 - 4.2 ± 0.3 years. Hormonal and biochemical analysis: FSH, LH, TSH, testosterone, DHEAS, SHBG, TSH, free T3 and T4 in blood serum for 2-3 days of the menstrual cycle, cholesterol, LDL, HDL, triglycerides, glucose tolerance test, insulin. Therapy: combined oral contraceptives with drospirenone, metformin, statins, levothyroxine, potassium iodide. Ultrasound of the thyroid gland, ovaries and uterus. **Results:** Patients with thyroid pathology (group 2 and 3) have a worse metabolic profile (higher levels of androgens, severe hyperinsulinemia and dyslipidemia, carbohydrate metabolism disorders), more often suffer from cardiovascular diseases. Primary infertility is more common in patients with PCOS and hypothyroidism. The average level of cholesterol in patients with PCOS and hypothyroidism is significantly higher than in women of other groups. Combined therapy effectively compensates the metabolic and hormonal disorders in patients only with PCOS, as well as in patients with PCOS and thyroid pathology (in combination with Levothyroxine preparations if indicated), however, the therapy was less effective. Patients with PCOS and hypothyroidism have higher levels of ovarian volume and the number of antral follicles, which requires a longer course of therapy with combined oral contraceptives. **Conclusion:** In patients with PCOS and impaired thyroid function metabolic profile is worse, longer treatment and rehabilitation periods are required, which is associated with a lower effectiveness of pathogenetic therapy for PCOS.

P112

HIGHER SERUM LEVELS OF VITAMIN D ARE ASSOCIATED WITH LOWER BLOOD GLUCOSE LEVELS

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Problem statement: Despite of the Vitamin D important role in bone metabolism, some evidences suggest that higher serum levels of 25(OH)D might be associated with a lower risk of developing type 2 diabetes mellitus, possibly by providing better glycemic control. The objective of the present study was to evaluate the possible association between 25(OH)D sufficiency

and glycemia. **Methods:** This was a cross-sectional study in Brazil, involving 681 women aged 35 to 74 years, selected through systematic sampling applied to a sampling frame comprising 7,212 women enrolled in a Family Health Program. The study was approved by the Research Ethics Committee of the University of São Paulo School of Public Health. All participants gave written were informed consent. Participant were interviewed and had fasting blood samples collected on scheduled dates. Data were stored in a Microsoft Access 2003 database and were analyzed with the Stata statistical software package, version 11.0 (StataCorp LP, College Station, TX). Total 25(OH)D was categorized as ≥ 30 ng/mL versus 30ng/mL, and as ≥ 20 ng/mL versus 20ng/mL. Blood glucose levels were categorized as 100mg/dL versus ≥ 100 mg/dL. **Results:** The mean fasting blood glucose and 25(OH)D levels was 105mg/dL (range, 26-401 mg/dL) and 26.4 ng/mL (range, 5.8-55.9 ng/mL), respectively. The prevalence of a serum 25(OH)D level 20ng/mL was 26.6% (95% CI 23.3%-29.9%) and that of a serum 25(OH)D level 30ng/mL was 65.4% (95% CI 61.6%-68.7%). A serum 25(OH)D level ≥ 30 ng/mL was found to be negatively associated to blood glucose level ≥ 100 mg/dL (OR=0.62; 95% CI, 0.44-0.85), as was a serum 25(OH)D level ≥ 20 ng/mL (OR=0.68, 95% CI, 0.48-0.95). In the multivariate Poisson analysis, considering body mass index, age, and systolic blood pressure, a blood glucose level ≥ 100 mg/dL maintained its associations with serum 25(OH)D levels 20ng/mL and 30ng/mL (Table 1). **Conclusions:** In the present study, higher serum 25(OH)D concentrations was associated with blood glucose levels lower than 100mg/dL. **Disclosure of Interest:** In Brazil, it was found a positive association between lower vitamin D concentrations and glucose levels higher than 100mg/dL.

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MOLECULAR CHANGES IN UTERINE LEIOMYOMAS IN MYOMECTOMY PATIENTS

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Problem statement: Uterine leiomyomas (ULM) are benign smooth muscle tumors, occurring in up to 70% of women by the age of 50 years. Myomectomy is a surgical treatment option where the uterus and thereby reproductive potential are preserved. The most important known genetic changes in ULM are mutations in *mediator complex subunit 12 (MED12)*, changes leading to high mobility group AT-hook (HMGA2) overexpression, and heterozygous germline mutations in *fumarate hydratase (FH)*, resulting in hereditary leiomyomatosis and renal cell cancer (HLRCC) syndrome. The earlier studies on molecular background of ULM are mostly based on hysterectomy samples from middle aged women. Therefore, we wanted to know whether the pathogenesis of ULM is similar in younger women. **Methods:** The research material comprises of women up to 45 years old, who have undergone myomectomy at Helsinki University Central Hospital. We have collected formalin fixed paraffin embedded samples from patients operated during 2009–2014. *MED12* mutation frequency was determined by direct sequencing of exons 1 and 2, and HMGA2 expression levels were assessed by immunohistochemistry. Biallelic *FH* inactivation was detected with 2SC staining. Patients' medical records were reviewed. **Results:** We analyzed 238 patients with 361 leiomyomas. The median age of patients at operation was 33 years. 6.3% of the patients had had a prior myomectomy. The majority of patients (58%) were operated for a single leiomyoma. The frequency of *MED12* mutation was 71%, as reported in tumors obtained through hysterectomy. 9% of leiomyomas showed HMGA2 overexpression, 3% were FH deficient, and 17% were wildtype for all of the studied alterations. Interestingly, in solitary leiomyomas, the *MED12* frequency was



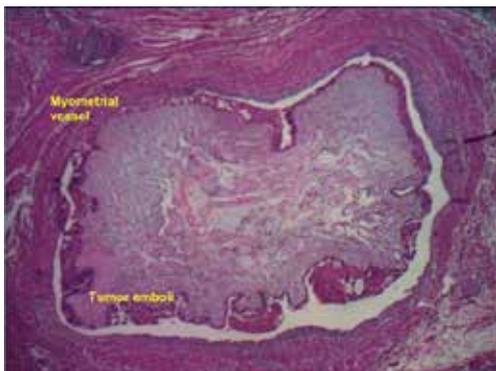
only 49%, and 27% of the solitary tumors were wildtype. Leiomyomas with *MED12* mutation were smaller in size compared to tumors with *HMGA2* overexpression, and more often subserosal compared to tumors with other drivers. **Conclusion:** This study is a comprehensive sample series of young ULM patients. Our findings emphasize the meaning of solitary leiomyomas in clinical practice. Molecular changes behind the notable proportion of wildtype leiomyomas need more research. The authors declare that they have no conflict of interest.

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THE CURIOUS CASE OF A DEVIANT MOLE: A CASE OF AN INVASIVE MOLE METASTATIC TO THE OVARY

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Problem statement and Methods: This report emphasizes the rarity of the case and how it can present differently, posing diagnostic dilemma. A high index of suspicion in cases of previous molar pregnancy will direct to the right diagnosis and appropriate management of metastatic Invasive Mole. **Results:** This is a case of 33 year old, G3P1 (1021), presenting with left lower quadrant pain. The positive pregnancy test and previous complete mole lead to the impression, Gestational Trophoblastic Neoplasia, probably ruptured vs. Ectopic pregnancy, probably ruptured. On laparotomy, a right ovarian mass exuding vesicular tissues and a bluish-black discoloration at the right postero-lateral aspect of the uterus was noted. With these findings, total abdominal hysterectomy with right salpingo-oophorectomy was performed. Histopathologic examination revealed an invasive mole metastatic to the ovary.



Conclusion: Though the possibility of invasive mole metastasizing to the ovary is not an impossibility, simply because of the adjacency of both organs, this case is still of great interest. This is the very first time that such occurrence is being accounted and reported, not only here, but globally, as well. This is a manifestation that truly, invasive mole, as its name implies, can invade or overrun any organ for that matter, far or near, as the latter in our case, the neighboring ovary. The impression of GTN at any given time and place, should tweak the curiosity in us, "What and where it is this time?" And this time, it is the ovary!

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PELVIC FLOOR DYSFUNCTION AFTER VAGINAL DELIVERY: A PROSPECTIVE STUDY

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Problem statement: Pregnancy and labor are known risk factors for pelvic floor dysfunction (PFD). Operative vaginal delivery (OVD) is one important risk factor and its impact in early PFD symptoms is controversy. The purpose of this study is to compare postpartum PFD symptoms between spontaneous vaginal delivery (SVD) and OVD. **Methods:** An observational prospective study (MOODS: Maternal-neonatal Outcomes in Operative-vaginal Delivery Study) was enrolled at Braga's Hospital (tertiary center) from February to August 2018 (included all OVD (vacuum, forceps and spatulas) and random SVD sample, in a 2:1 ratio). To access PFD symptoms the Pelvic Floor Distress Inventory-20 (PFDI-20) was applied 3-months, 6-months and 1-year postpartum. The questionnaire has 20 questions and is divided into three subscales: Urinary(UDI), Colorectal-Anal(CRADI) and Pelvic Organ Prolapse Distress Inventory(POPDI). The answers were converted to a numerical scale. A partial score (0-100 in each subscale) and a global score (0-300, sum of 3 subscales scores) were calculated. Women that answer at least one of the questionnaires were included. **Results:** Of 271 women recruited, 193 were included, 69(35.8%) had a SVD and 124(64.2%) an OVD. Thierry spatulas were used in 50% of OVD. The response rate at 3-months was 81.2% for SVD, 79.0% for OVD; at 6-months 44.0% for SVD, 43.5% for OVD; at 1-year 52.2% for SVD, 54.8% for OVD. No difference was found regarding age, body mass index, maternal/obstetric history, type of labor, perineal lacerations and birth weight. The frequency of nulliparous ($p=0.001$), episiotomy ($p=0.001$), loco-regional anesthesia ($p=0.001$), postpartum pain ($p=0.002$) and postpartum complications ($p=0.026$) was significantly higher in OVD. The second stage of labor duration was longer on OVD ($p=0.001$). At 3-months OVD had higher UDI-score ($p=0.038$), POPDI-score ($p=0.004$) and global score (38.8 ± 39.9 vs. 24.3 ± 29.4 , $p=0.010$). At 6-months OVD had higher POPDI-score ($p=0.020$) and global score (35.2 ± 41.8 vs. 19.8 ± 25.3 , $p=0.037$). There was no difference at 1-year evaluation and between the instruments used. **Conclusion:** OVD seems to be associated with higher prevalence of early PFD symptoms especially urinary and pelvic organ prolapse symptoms, and this is independent of the instrument used. However, overall low scores reflect a modest impact on patients' quality of life.

P116

MYO-INOSITOL EFFECTS ON METABOLIC AND HORMONAL PARAMETERS AND BODY COMPOSITION IN WOMEN WITH POLYCYSTIC OVARY SYNDROME

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Problem statement: To evaluate the effects of a myo-inositol (MI) therapy on the hormonal and metabolic parameters and body composition outcomes of women with polycystic ovary syndrome (PCOS). **Methods:** Seventy-eight patients (26,4±4,6 years) diagnosed with PCOS according to the Rotterdam criteria were enrolled in this study. Patients were treated for 6 months with MI 4g + folic acid (FA) 400µg daily. Menstrual cycles, body mass index (BMI) and serum levels of the anti-mullerian hormone (AMH), free testosterone (fT), total testosterone (tT), index of free androgens (FAI), androstendione (A), dihydrotestosterone (DHT), 17-OH-progesterone (17-OH), sex hormone-binding globulin (SHBG), luteinizing hormone (LH), follicle-stimulating hormone (FSH), progesterone were measured at baseline and 6 months. The serum levels of glucose and insulin during the standard oral glucose tolerance test (OGTT), body composition measurements, including total body fat (%) (BF), visceral adipose tissue (VAT) mass and volume by dual-energy X-ray absorptiometry scan (DXA). **Results:** Findings showed that MI use for 6 months was

significantly associated with a decrease of the mean level of AMH by 27,7%, LH – 22%, tT – 18%, fT- 29%, A- 15%, 17-OH – 36,6%, FAI – 40,5%, leptin – 38,5% and a increase the mean level of SHBG by 25% (p0,001). MI supplementation significantly reduced frequency of hyperinsulinemia (HI) from 48,7% to 22,8% (p=0,004) and of impaired glucose tolerance (IGT) – from 19,2% to 3,5% (p0,001). The mean of BMI was reduced by 8,6% after treatment (p0,001). The frequency of women with normal BMI (18,5-24,9%) was increased from 75,6% to 89,5% (p≤0,001). However the BF in women with normal BMI was reduced from 64,7% to 39% (p≤0,001). The average meanings of BF, VAT mass and volume reduced by 11,5%, 38,4% and 33,2 (p≤0,001). The menstrual function restoration was observed in 38,6%. **Conclusion:** This study shows that MI significantly reduces hyperandrogenism, HI, ITG and body fat, mainly due to VAT, that leads to the regulation of menstrual function in every third woman with PCOS.

P117

WHY ARE WE ADMITTING WOMEN WITH ACUTE ABNORMAL BLEEDING? – ONE-YEAR EXPERIENCE

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Problem statement: Abnormal uterine bleeding (AUB) is a frequent complaint in pre-menopausal women. However rarely will be severe enough justifying inward admission. Urgent admission, revealing ill-controlled AUB, may endorse additional risk for adverse outcome. Aim: to analyse urgent admissions for AUB, identifying causes, treatment and outcome. **Methods:** All cases of reproductive-aged women over 18 years old who underwent urgent inward admission for AUB at CHUA – Faro were included (01/06/2018 to 31/05/2019). AUB classification was based on the FIGO classification system (PALM-COEIN). Statistical analysis was performed with SPSS version 24.0. **Results:** A total of 18 women and 21 urgent admissions were included. Mean age was 44,1 years; 52,9% had co-morbidities, including 12,5% under anti-coagulants. Low compliance for gynaecological screening was noted. At admission, mean haemoglobin levels were 6,3 g/dL; haemodynamic stability was categorised as class III in 29,5%. Intravenous iron and transfusion support were required in 56 and 89%, respectively (average 2,66 units). Mean duration of inward admission was 5,44 days. One woman underwent Intensive Care Unit admission. Gynaecological ultrasound was performed in all cases, endometrial biopsy in 44,4%, hysteroscopy in 11,1 and pelvic resonance in 5,6%. Etiological investigation revealed ≥ 2 causes in 50% of women: Polyp=22,3%, Adenomyosis=22,2%, Leiomyoma=56,5%, Malignant and precursor lesions=27,6% (1 sarcoma, 2 hyperplasia), Coagulopathy=11,2, Ovulatory dysfunction=5,6%, Iatrogenic=11,2, Not classified=5,6 (uterine arteriovenous malformation). Medical treatment included progestatives, antifibrinolytics and ulipristal acetate in 55,5%, 22,2% and 22,2%, respectively. Surgical treatment was proposed to 82,4% – 11,8% urgent hysterectomy, 58,8% differed hysterectomy, 11,2% ressetoscopy and 5,9% arterial embolization – 2 women did not attend their elective surgeries. All women under oral anticoagulants had them switched to fractionated heparin. Surgical complications occurred in two women. **Conclusion:** These results show that most urgent admissions for acute AUB occur in women with low healthcare compliance. In this setting, the aim is to hemodynamically stabilize the patient and stop excessive bleeding. Most frequently surgery will be proposed, due to poor health status and haemorrhage severity. Our analysis supports the need for broader access to healthcare screening and education, so that better clinical outcomes may be achieved, and less economic burden will second.

P118

A RARE CASE OF THORACIC DIAPHRAGMATIC ENDOMETRIOSIS INVADING THE LIVER AND LOWER LOBE OF LUNGS

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Introduction: Thoracic endometriosis is a rare manifestation of extra genital endometriosis with important clinical ramifications. Despite growing awareness of thoracic endometriosis, it remains an enigmatic condition with various theories proposed to explain its pathogenesis. **Case history:** A 47 year old presented to the Fast Track chest clinic with a cough of 10 months duration. She also reported having had right upper quadrant pain and ipsilateral shoulder and arm pain for approximately 15 years. All of the above coincided with her menstruation. She was found to have a 6.5 cm ill-defined lobulated mass invading the right hemi diaphragm, lower lobe of lung and protruding into the right lobe of the liver based on an MRI scan. The differential diagnosis was that of endometriosis or a primary pleural malignancy. A liver biopsy was taken which confirmed hepatic endometriosis. Given the benign nature of the disease, a multidisciplinary team review suggested that a medical therapy approach with GNRH (Gonadotropin- releasing hormone) analogues rather than resectional surgery would be more appropriate in view of her perimenopausal status. Being fully compliant with her medical therapy, there was a complete resolution of symptoms with confirmatory changes on a CT scan.

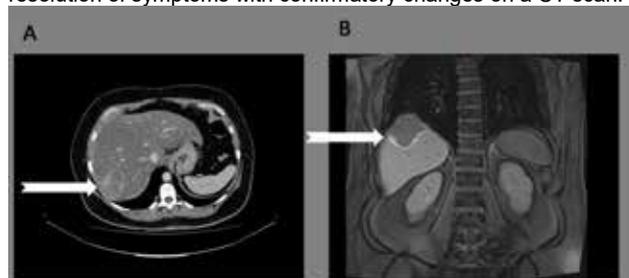


Figure 1: CT Scan and MRI on presentation. A) CT scan showing mass invading the right hemidiaphragm into right lobe of the liver. B) MRI showing the lesion spans the right hemidiaphragm posteriorly into the liver and the right lower lobe of the lung. The liver lesion suggests haemorrhage and may reflect a haematoma.

Discussion: Thoracic endometriosis often presents as a delayed diagnosis. The reasons could be partly due to the lack of proper history taking, as multiple symptoms being both cyclical gynaecological and non gynaecological (dyschezia, dysuria, haematuria, rectal bleeding, shoulder pain) increases the likelihood of having endometriosis or the thoracic component taking a longer time to reveal as the diaphragm undergoes cyclical necrosis and subsequent cycles may lead to the production of fenestrations, as in this particular case. **Conclusion:** The diagnosis of diaphragmatic endometriosis is challenging and requires a high index of suspicion. Due to the complexity and rarity of this condition, the diagnosis is often delayed or missed and can have a major impact and a detrimental effect on the patient's overall health and fertility.

P119

EFFECTS OF FLEXIBLE EXTENDED REGIMENS OF ORAL CONTRACEPTIVES ON THE VAGINAL ENVIRONMENT

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Objective: to study the effect of flexible extended regimens of oral contraceptives (COC) on the condition of the vaginal environment and the level of sex hormones in women of reproductive age. The study involved 54 women who need contraception aged from 18 to 45 years. The average age was 27.5±6.8 years. Before and after 6

months of using the COC the state of the vagina was determined by the degree of purity of the vaginal smear, moisture, and acidity (pH), the condition of the vaginal microbiota, as well as the level of sex hormones in blood. After 6 months of use of COC in flexible extended regimens normal microflora with a predominance of lactobacilli was determined; there was a significant in vaginal acidity without change of moisture. Against the background of the use of COC, a significant decrease in the level of estradiol, free testosterone and the index of free androgens, an increase in the level of sex hormone-binding globulin (SHBG) was revealed. A statistically significant correlation between vaginal acidity, the level of estradiol, free testosterone and the index of free androgens, a negative correlation between the level of SHBG were revealed. On the moisture content of the vagina the level of estradiol influenced significantly. **Conclusion:** The use of flexible extended regimens of oral contraceptives for 6 months contributes to the dominance of lactobacilli in the vagotype, increasing the acidity of the vagina against the background of a decrease in the level of estradiol and testosterone. Keywords: combined oral contraceptives, vaginal environment, vaginal microbiota, lactobacilli

P120

PELVIC INFLAMMATORY DISEASE AS ATYPICAL PRESENTATION OF RECTAL CANCER

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Problem statement: Pelvic inflammatory disease (PID) is an infectious and inflammatory disorder of the upper female genital tract. Signs and symptoms associated with acute PID can include lower abdominal pain, abnormal vaginal discharge, fever and intermenstrual or postcoital bleeding. Colorectal cancer can have unusual presentations caused by local invasion and contained perforation of colon cancer, causing fever and abdominal pain. **Methods:** We present a case of colorectal cancer in a female patient with PID as initial presentation. **Results:** A 49-year-old woman, with no relevant personal history, was admitted in the emergency department of Gynecology with acute abdomen, presenting pelvic pain and fever with 4 days of evolution. The diagnosis of PID was attributed due to salpingitis/tube-ovarian abscesses documented by abdominal-pelvic CT and ultrasound. The patient underwent urgent laparoscopy, finding a tube-ovarian abscess and a pelvic inflammatory process with multiple adhesions and obliteration of posterior cul-de-sacs. Bilateral salpingectomy and peritoneal lavage were performed. Due to clinical worsening and persistent faecal peritonitis, iatrogenic perforated hollow viscous was suspected and the patient underwent exploratory surgery twice. In the second intervention, a punctiform perforation at the anterior region of the recto-sigmoid transition was identified. Rafia of the defect and derivative ileostomy were performed. Postoperative complications include surgical wound infection and rehospitalization for dehydration and suspected residual pelvic abscess, with good response to antibiotic treatment. Histological result of the first surgery revealed the presence of invasive epithelial malignant neoplasia, suggestive of high-grade serous carcinoma of the uterine tube. Surgery was proposed for oncological staging, having performed posterior pelvic exenteration, with colorectal anastomosis, lymphadenectomy and omentectomy. After started chemotherapy presented right hallux ischemia as a complication and was submitted to finger amputation. The definitive histological result was adenocarcinoma of the rectum with invasion of the parametrium. **Conclusion:** It is important to question the initial diagnosis if a patient continues to exhibit persistent symptoms after adequate therapy for the initial diagnosis. Sometimes colorectal cancer can have atypical presentations due to local invasion, or a contained perforation

causing malignant fistula formation into adjacent organs, most commonly in cecal or sigmoid carcinomas.

P121

PRESERVING THE UTERUS IN AN INFERTILE WOMAN WITH COMPLEX ATYPICAL ENDOMETRIAL HYPERPLASIA

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Problem statement: Endometrial hyperplasia (EH) with atypia, also referred as endometrial intraepithelial neoplasia, has a high risk of progression to endometrial carcinoma. Hysterectomy is the treatment of choice for most women, but progestin therapy is a reasonable option for women who wish to preserve fertility or cannot tolerate surgery. **Methods:** We present a case of successful treatment of complex atypical EH with megestrol acetate in an infertile woman. **Results:** A 38-year-old woman, nulliparous, with obesity (BMI 36 kg/m²) and history of thrombophlebitis of the left lower limb, was followed for 5 years in Hospital Dr. Nélio Mendonça for primary infertility. During follow-up on Reproductive Medicine consultation, she performed induction of ovulation and intrauterine insemination both unsuccessful. She underwent multiple hysteroscopic polypectomies and cyclic progestin treatment for hypertrophic endometrium. During the hysteroscopic surveillance prior to infertility treatments, she presented endometrial biopsy with "endometrium with complex hyperplasia, with focal atypia" and endometrial polyp with "simple hyperplasia". Both Reproductive Medicine and Oncology teams agreed to perform fractional curettage with endometrial biopsy, which confirmed the diagnosis of complex EH with atypia. After that, ultrasound showed endometrium with 5,5mm thickness, with regular baseline and no vascularization. Therefore, was decided to treat with megestrol acetate, 80mg twice daily, due to the desire for fertility. In the hysteroscopic reevaluation after 3 months, 6 months and 1 year there was no endometrial hyperplasia. In the meanwhile, she was diagnosed with hypothyroidism and rheumatoid arthritis and started treatment with levothyroxine, hydroxychloroquine sulfate and prednisolone. In vitro fertilization (IVF) treatments were planned and she became pregnant after two years of the diagnosis of EH, although resulted in a first-trimester miscarriage. Later, she had an acute cholecystitis and was submitted to cholecystectomy. Currently she maintains follow-up with hysteroscopic surveillance every 6 months and infertility treatments. **Conclusion:** The risk of progression of atypical EH to endometrial carcinoma is 15 to 28 percent. For premenopausal women who wish to preserve fertility is reasonable to treat with a progestin rather than hysterectomy, as we shown in this case of successful regression to endometrium with no hyperplasia, which allowed the woman to continue IVF treatments.

P122

TREATMENT OF PATIENT WITH UTERINE FIBROID USING FOCUSED ULTRASOUND SURGERY - CLINICAL CASE

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Problem statement: Focused ultrasound surgery (FUS) is taking part of the clinical gynecological practice over the last 10 years. It is non-invasive procedure, it does not use scalpels and is very gentle for the patients. Our aim is to present a clinical case about a patient with uterine fibroid who underwent FUS with High Intensity Focused Ultrasound (HIFU) therapy with very good therapeutic response, assessed with MRI and certified



questionnaire about the Quality of life. **Methods:** 43 years old patient with clinical, ultrasound and MRI data for uterine fibroid, proving fibroid on the posterior uterine wall with size 73x71x74mm (125ml) was treated with FUS. After standart preparation, the patient was placed at the HIFU table. The uterine fibroid was found and then treated with HIFU beams. The maximum energy was 400W. Average energy output was 381W, total sonication time of the procedure was 526 seconds. The total energy was 200500J. The next day the patient was discharged in good general condition, without subjective complaints, afebrile, with antibiotic prophylaxis for 5 days. **Results:** At the control MRI of the pelvis after 45 days we found that the fibroid reduced its volume by 25% and had over 90% necrosis. The Quality of life of the patient was assessed by using Uterine Fibroid Symptom and Health Related Quality-of-Life Questionnaire and it was significantly improved. **Conclusion:** The presented clinical case is a good example for the therapeutic possibilities of FUS in patients with uterine fibroids. Future prospective investigations in this area are needed.

P123

PSEUDOANEURYSM OF THE UTERINE ARTERY AFTER ABDOMINAL BILATERAL SALPINGO-OOPHORECTOMY CAUSED BY TUBO-OVARIAN ABSCESS

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Uterine artery pseudoaneurysms (UAPs) are rare vascular lesions and may be life threatening if not diagnosed and properly treated. Here, we describe the case of a woman with a UAP after abdominal bilateral salpingo-oophorectomy caused by a tubo-ovarian abscess. Six days later, she presented with sharp abdominal pain, and a Jackson-Pratt drain was filled with 70 cc per hour. Abdominal computed tomography angiography revealed a UAP on the left side. Selective uterine artery angiography demonstrated a pseudoaneurysm in the sidewall of the left uterine artery, and embolization was performed successfully. Patients usually leave the hospital two to six days after surgery. Most of the symptoms of a UAP occur after discharge and may occur after one month. Therefore, UAP suspicion is required in the event of initial symptoms such as vaginal spotting, abdominal discomfort/pain, fever, dizziness, etc. Additionally, patients should be informed that they must visit the emergency room in the case of such symptoms through warnings and education. In addition, if a pseudoaneurysm is suspected even slightly, an imaging work up should be conducted in a timely manner to quickly achieve diagnosis and treatment.

P124

CLIMACTERIC SYNDROME WITH PSYCHOEMOTIONAL LOAD IN WOMEN

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The relevance of the study is determined by a high level of pathological variants of the course of menopausal syndrome in perimenopause in women, including due to an increase in psychoemotional loads. **Objective:** To study the characteristics of the formation and course of menopausal syndrome in women who have undergone a psychoemotional load. **Material and research methods:** 34 women were examined, the average age of which was 59.6 ± 3.69 years. Analysis of clinical and anamnestic data was carried out according to an individual examination map. The study was conducted using the scale for assessing the quality of life - "SF-36 Health Status Survey". Statistical data processing was carried out using the package of standard application programs Statistica for Windows (Ver. 10.0). **Results and discussion:** The reproductive health of women examined was presented as follows: the average number of pregnancies per woman was 9.60 ± 2.63 , including childbirth - 5.83 ± 0.88 , abortion - 4.58 ± 2.27 , miscarriage - 1.19 ± 0.57 . In the structure of gynecological pathology, the main

diseases were cervical pathology 19 (55.9%), uterine fibroids 17 (50%). Pelvic inflammatory diseases accounted for 64.7%. The average age of menopause in all examined patients (34) was 49.11 ± 1.34 years. 18 (52.9%) patients had various metabolic and endocrine disorders (weight gain, arterial hypertension, headache, thyroid dysfunction, pain in muscles and bones, etc.). 20 women (58.8%) complained of the presence of psycho-emotional disorders (decreased performance, fatigue, memory impairment, irritability, tearfulness, depression, etc.). The frequency of MS of varying severity among all examined women was 73.5%, which exceeds the average statistical data in the population - 26% - 48%. The quality of life of women differs sharply from women of menopausal age of the general population. Physical activity and daily activities are significantly limited due to physical decline and deterioration of the emotional state. **Conclusion:** Women with a psycho-emotional load have a history of earlier detection of menopausal syndrome - 49.11 ± 1.34 , while the frequency of MS of varying severity is 73.5%, which exceeds the average statistical data in the population - 26% - 48%

P125

PSEUDOANEURYSM: AN UNUSUAL CAUSE OF SECONDARY POSTPARTUM HAEMORRHAGE

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Introduction: Uterine artery pseudoaneurysm(UAP) is a rare cause of secondary postpartum haemorrhage(PPH). We report a case of UAP presenting with massive PPH post-caesarean section delivery that was managed successfully with uterine artery embolization (UAE). **Case description:** A 34-year-old Caucasian female(gravida 1 para 1) who delivered via caesarean section 6 days ago was brought in via ambulance with massive PPH. Her antenatal progress was uneventful and she had undergone an emergency caesarean section for arrest of secondary stage of labour. The operation was unremarkable; she was discharged well on the third postoperative day. Initial evaluation revealed an afebrile patient with a blood pressure of 66/44 and tachycardia of 120 beats per min. She was pale but responsive and an abdominal examination was normal. Speculum examination of the vagina revealed large clots with no active bleeding. She was immediately transfused with packed red blood cells and fresh frozen plasma, and was started on intravenous fluids, antibiotics and uterotonics. Initial laboratory results demonstrated a low haemoglobin of 7.2g/dL, haematocrit of 20.9%, white blood cell of 11.78×10^9 and platelets of 148×10^9 . An ultrasound pelvis reported a distended endometrial cavity and a 4.0x2.7x2.1cm thick wall cystic area containing low level echoes near the caesarean site. Whilst inpatient, she had another episode of massive per-vaginal bleeding with an estimated blood loss of 1.5 litres which aborted after conservative measures. An angiogram performed showed a left proximal UAP with active contrast extravasation(Figure 1). Embolisation was subsequently performed with microcoils and Gelfoam™. A post-embolisation angiogram showed no more contrast filling in the pseudoaneurysm cavity or contrast extravasation. Post-procedure recovery was uneventful with no further episodes of per-vaginal bleeding. She was discharged well on day 6 of admission. **Discussion:** PPH is a leading cause of maternal mortality and morbidity. Haemorrhage resulting from UAP is often unpredictable and massive, resulting in life-threatening haemorrhagic losses and surgical intervention including hysterectomy. UAP should hence be considered early as an important differential diagnosis, especially when more common causes such as endometritis and retained products of conception have been excluded. Angiography remains the standard method of diagnosing and treating UAP, avoiding the need for surgery.





P126

VENOUS THROMBOEMBOLISMS FOLLOWING LAPAROSCOPIC HYSTERECTOMY FOR BENIGN DISEASE IN A DANISH COHORT

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Problem statement: Postoperative venous thromboembolism (VTE) is a common complication following gynaecologic procedures, particularly for women undergoing open surgery or with malignancy. However, there is limited knowledge about the risk of postoperative VTE after laparoscopic hysterectomy. Based on retrospective studies VTE risk appears to be present but low which has led authors to discuss whether thromboprophylaxis (TP) is indicated. Recommendations for TP in women undergoing minimally invasive gynaecologic surgery are not well established and to date there are no evidence-based guidelines that specifically provide recommendations to prevent VTE-events in this patient category. Consequently, gynaecologic departments in Denmark have different local guidelines. The aim of our project was to investigate the incidence of VTE and the current use of thromboprophylaxis in Danish women undergoing laparoscopic hysterectomy for benign disease. **Methods:** Women who underwent hysterectomy for benign indication between January 1st 2015 and December 31st 2017 were included. The Danish Hysterectomy and Hysteroscopy Database (DHHD) and the Danish National Patient Registry were used to collect relevant data concerning patient and operation characteristics, postoperative complications and thromboprophylaxis. Information about the current use of thromboprophylaxis in Denmark was retrieved through electronic surveys sent to all Gynaecologic departments in Denmark reporting data to DHHD. **Results:** Ongoing study, preliminary results are presented. Out of 11731 hysterectomized women, 81% (n=9507) underwent minimally invasive hysterectomy in which 66% (n=7739) were laparoscopic. Pharmacologic TP was used in 86% (n=6646) of laparoscopic hysterectomies. Data from the electronic survey were provided by 25 Gynecologic departments in Denmark (83%). Eighty-eight percent gave TP to all patients, while 12% only to high risk patients. Pharmacological TP was used by 88%, most commonly used was Fragmin ranging in doses between 2500 and 5000 IE. Mechanical TP with perioperative thromboembolic- deterrent (TED)-stockings was used by 56%. Data concerning the incidence of VTE out of 7739

laparoscopic hysterectomies will be completed in October 2019.

Conclusion: Our preliminary results suggest that the majority of women undergoing laparoscopic hysterectomy in Denmark are given thromboprophylaxis. The type and dosage vary between departments.

P127

PREGNANCY AFTER HYSTERECTOMY: A CASE REPORT FROM HANOI OBSTETRICS AND GYNECOLOGY HOSPITAL AND LITERATURE REVIEW

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Problem statement: Hysterectomy is one of the most common non-pregnancy-related major surgeries on women. With the uterus removed, it is obviously expected that the woman's fertility would be terminated. However, in some very seldom cases, the woman somehow got pregnant post-operational. Late diagnosis and treatment may lead to catastrophic and life-threatening situations.

Case: A case of a 40-year-old multigravida woman having a pregnancy in the left fallopian tube 3 years after a supra-cervical hysterectomy at Hanoi Obstetrics and Gynecology hospital was described. At first, the pregnancy diagnosis was not considered because of the history of hysterectomy. Nevertheless, after careful examination and consultation, ectopic pregnancy appeared to be the only possible explanation of the patient's condition. The patient then underwent a successful laparoscopic intervention and was safely discharged after 3 days of post-operation. **Discussion:** With only 72 cases reported in English literature, pregnancies after hysterectomies is an extremely rare condition which might lead to misdiagnosing and belated treatment. Some cases were discussed to prove the point as well as two hypotheses of the condition.

Conclusions: A successful intervention was performed on a patient who conceived pregnancy after hysterectomy. Preoperative β HCG level and careful ultrasonography screening play an important role in diagnosing.

P128

RESULTS OF HORMONAL AND ULTRASOUND EXAMINATION IN CHRONIC SALPINGO-OOPHORITIS

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Inflammatory diseases of pelvic organs in women occupy the first place in the structure of gynecological morbidity throughout the world. **The aim of the study** was to study the features of the menstrual cycle in patients with a chronic course of inflammatory diseases of the pelvic organs, taking into account the duration and severity of the disease. **Materials and research methods.** To identify the pathology of the upper reproductive tract, 100 women underwent pelvic ultrasound using the Voluson E8 apparatus, using transabdominal sensors of 11 Hz and 18 Hz and a transvaginal sensor with a frequency of 20 Hz and 31 Hz. During hormonal screening, the quantitative determination of serum concentrations sex steroid hormones by the radio-immune method was determined. **Study results and discussion:** A study of the hormonal profile of patients of the first group showed that the average value of plasma hormones on the 14th day of the cycle was as follows: LH - 6.4 ± 0.6 IU / L (average norm 28.7 IU / L), FSH - 4.2 ± 0.3 IU / L (average norm 22.1 IU / L), prolactin - 24.1 ± 0.5 nmol / L (average norm 5.7 nmol / L), free testosterone - 4.6 ng / ml (the average norm is less than 1.0 ng / ml) (table. 2). Thus, in the first group of patients there were low values of the average values of LH, FSH against the background of hyperandrogenemia, hyperprolactinemia. The average levels of ACTH, TSH, free thyroxine, and cortisol were approaching the upper limit of normal. Folliculometry results showed a high

incidence of follicular persistence in 14 (14%), anovulatory disorders in 11 (11%) and follicular atresia in 12 (12%) women, hypo-ovulatory syndrome was in 29 (29%) women, hyperovulatory syndrome 22 (22%). **Findings:** The main forms of menstrual irregularities are dysmenorrhea (27%), oligoovulation (21%), hypo- and hyperpolymenorrhea (26.1%), as confirmed by ultrasound examination.

P129

CALCIUM AND VITAMIN D INTAKES FROM DIETARY SOURCES AND PHYSICAL ACTIVITY WOMEN IN PERI-AND POST-MENOPAUSE

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Background/aim: Calcium and vitamin D play a significant role in bone remodeling. Nutrition deficiency of calcium, vitamin D and insufficient physical activity are risk factor for development of osteoporosis. These can be modified and aim of this study is to identify those women at risk for bone thinning and fracture. **Method:** The study included 39 women in peri-menopause from 43 to 53 years of age and 46 women in post-menopause from 46 to 66 years of age. The selection criteria was that they had no other risk factors, not use HRT (Hormone Replacement Therapy) and calcium and vitamin D supplements, do not data of BMD (Bone Mineral Density) and the lactose intolerance. For women in both groups an approximate daily rate was determined calcium and vitamin D intakes, BMI (Body Mass Index) and the type of physical activity. **Results:** Average age perimenopausal women is 48 and 56 years at postmenopausal. Women with BMI less than 20,0 had 38% perimenopausal and 4,34% postmenopausal women. Obese had 38,48% perimenopausal and 28,26% postmenopausal women. Women with body weight less than 58 kg had 15,38% perimenopausal and 6,52 % postmenopausal women. A daily intake of calcium less than 1000mg/d had 64,15% perimenopausal and 67,39% postmenopausal women and less than 700mg/d had 10,26% perimenopausal and 43,48% postmenopausal women. Only 12,82% perimenopausal and 19,57% postmenopausal women had daily intake of calcium 1000-1200mg/d. The recommended daily intake of vitamin D of 600 IU/d was not intake by any women in both groups (100%) as well as less than 400 IU/d 58,97% perimenopausal and 36,95% postmenopausal physical activity was within the scope of their usual activities at home and at work. Weight-bearing exercise only at 10,85% postmenopausal and 0% perimenopausal women. **Conclusion:** These results are partly due to the socio-economic situation and insufficient preventive. Further examination of these women is required. Women in post-menopause avoid HRT, which would be the first line of treatment for younger postmenopausal women at risk of osteoporosis. Compliance with ethical standard, no conflict of interests. **Key words:** calcium and vitamin D intakes, physical activity, peri and post-menopause

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HYSTEROSCOPIC ISTHMOPLASTY AS TREATMENT FOR ABNORMAL UTERINE BLEEDING, PELVIC PAIN AND SECONDARY INFERTILITY - BRIEF REVIEW FROM A CASE REPORT

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Problem statement: An isthmocele is a myometrial discontinuity in the site of a previous caesarian section (CS) communicating to the uterine cavity, probably favored by a low incision, deficient

hysterorrhaphy or other individual tissue-related factors. It is usually asymptomatic but can associate irregular spotting, dysmenorrhea, dyspareunia, chronic pelvic pain or infertility. In a consecutive pregnancy a scar ectopic implantation, placenta accreta or previa, scar dehiscence and uterine rupture may appear as complications. Nowadays the gold-standard treatment is the hysteroscopic isthmoplasty (p.i. mini-resectoscope or laser) in symptomatic women. It has demonstrated to safely and effectively control abnormal uterine bleeding and alleviate pain, considering that clinical persistence is reported in up to 18% of cases. Among published series, around 50% of the patients intervened for infertility achieved a consecutive pregnancy. **Methods:** Case report: We expose the case of a 39-year-old patient with history of hysteroscopic uterine septum resection at 32 and elective CS at 35, suffering from evolving intermenstrual spotting and pelvic discomfort since then with secondary infertility. The initial approach including transvaginal-ultrasound showed a residual 16x7mm septum and a 3.6mm-wide isthmocele with 1.7mm of minimum endometrial thickness at the sacular edge, also carefully examined by magnetic resonance imaging. A surgical hysteroscopy was performed to evaluate the cavity, resect the septum and mainly repair the isthmocele through flattening of the surface crests using diode laser. **Results:** Evolution: After 2 weeks the patient was asymptomatic, and after 4 months presented with a 7.5-week ongoing pregnancy. Nowadays is being followed up in our High Risk Obstetric Unit and planned to undergo CS at term. **Conclusion:** As widely supported by current literature, hysteroscopic isthmoplasty is beneficial for patients with uterine bleeding abnormalities or painful conditions associated to a CS scar defect, with early and encouraging results. Given the favorable risk-benefit balance, also secondary infertile patients should be offered this minimally-invasive treatment, once explained the technique limitations and expected outcomes.

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PHYSIOTHERAPEUTIC APPROACH OF DYSpareunia IN WOMEN WITH CHRONIC PELVIC PAIN: COMPARISON BETWEEN TWO TECHNIQUES. A RANDOMIZED CLINICAL TRIAL

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Problem statement: Dyspareunia is an important sexual dysfunction commonly encountered in clinical practice, leading a negative impact in quality of life of women. Tenderness of pelvic floor muscles is frequently observed among women with dyspareunia. Most women regard dyspareunia as ordinary symptom and very often did not report the pain, what over the time can aggravate the symptom generating Chronic Pelvic Pain (CPP). Objectives: Evaluate the effectiveness of Thiele perineal massage and the effectiveness of intravaginal electrostimulation in treating women with CPP and dyspareunia caused by spasm of the pelvic muscles, to compare two techniques and their pain effects, anxiety and depression risks and sexual function. **Methods:** Was realized a clinical trial randomized with random allocation of people in parallel groups. Group A: 14 women treated with perineal massage and group B: 16 women treated with intravaginal electrostimulation. Inclusion criteria: Women with CPP and superficial dyspareunia caused by spasms of the pelvic muscles diagnosed and exclusion criteria: Dyspareunia without spasm in pelvic muscles, pregnant, menopause and with medical records of vasculopathies, neuropathies, diabetes, thyroid disease. These women were recruited in the Clinic of Chronic Pelvic Pain of the Hospital of Ribeirão Preto Medical School of the University of São Paulo. Evaluation with physical examination and application of VAS, McGill pain, HAD and SF18 and the collection of demographic data were performed. After end of treatment these women were re-



evaluated after 1, 4, 12 and 24 weeks follow-up by a foreign evaluator to the type of treatment. **Results:** No significant differences were found when comparing the effectiveness of one technique in relation to the other in any of the reevaluation times. However, significant results were found within each group between pre-treatment and post-treatment times (1, 4, 12, and 24 weeks post-treatment). In relation to the improvement of pain (EVA, McGill) and sexual function (FSFI), no significant differences were found regarding treatment techniques and the risk for anxiety and depression. **Conclusion:** The two treatment modalities were effective in improving pain, thus suggesting their use separately or in combination in cases of DPC associated with superficial dyspareunia secondary to pelvic muscle spasms. The authors declare that they have no competing interests.

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WOMEN WITH CHRONIC PELVIC PAIN HAVE WORSE PELVIC FLOOR MUSCLE PERFORMANCE

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Problem statement: Studies have increasingly demonstrated the importance of the musculoskeletal system in the formation and perpetuation of Chronic Pelvic Pain (CPP). There is evidence that approximately 85% of CPP patients may present musculoskeletal system dysfunction, including postural changes, pelvic floor muscle (PFM) spasm, and abdominal wall myofascial syndrome. The PFM's play an important role in the support of the abdominal and pelvic organs, and the control of urinary, fecal and sexual function. Objectives: This study evaluated the contractility of the muscles of the pelvic floor of women with chronic pelvic pain (CPP) compared to women without pelvic pain. **Methods:** Evaluation of pelvic floor muscles was performed by vaginal palpation and perineometry. During vaginal palpation, the muscle function was classified using the modified Oxford scale of 0 to 5. The contraction ability, coordination, and strength of the pelvic floor muscles were also evaluated. The contraction capacity was recorded as yes or no, the coordination was evaluated by the contraction capacity of the pelvic floor muscles without the use of accessory muscles, and the resistance was recorded as the time that the patient could sustain the contraction of the pelvic floor muscles. The evaluation of the floor muscles contraction pressure was conducted through the perineometer, consisting of an apparatus which records vaginal pressure generated by the contraction of PFM (Pelvic floor Muscle) in cmH₂O measures. **Results:** We analyzed 78 women, with and without CPP. The comparative analysis between the groups showed that there is a difference in relation to the following: modified Oxford scale, muscle strength, urinary tract infection, abdominal surgery, vaginal birth, cesarean section, dyspareunia, BMI (Body Mass Index), and perineometry. There were no significant differences in the contraction capacity, muscle coordination, urinary incontinence, obstetric history, occurrence of births, and age. There was a strong correlation between the Oxford scale and perineometry, with a p-value of 0.0001. **Conclusion:** This study found that women with CPP have altered contractility of PFM in contrast to controls, demonstrated by the modified Oxford scale and perineometry. The authors declare that they have no competing interests.

P133

ASHI ACUPUNCTURE AND LOCAL ANESTHETIC INJECTION HAVE SIMILAR EFFICACY IN THE TREATMENT OF ABDOMINAL MYOFASCIAL PAIN SYNDROME IN WOMEN: A RANDOMIZED CLINICAL TRIAL

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Problem statement: Chronic pelvic pain (CPP) is defined as recurrent or continuous pain that occurs in the hypogastric region (lower abdomen or pelvis), is non-menstrual or non-cyclic, lasts at least six months, and is severe enough to interfere with the patient's usual activities and affect the quality of life, necessitating surgical or pharmacological treatment. Among the musculoskeletal disorders related to CPP, abdominal myofascial pain syndrome (AMPS) appears to be a major condition. AMPS usually affect women more than men (54% and 45%, respectively) and is more frequent among women aged 30 to 40 years. Its estimated prevalence ranges from 30% in primary care centers to 85%-93% in specialized centers for the treatment of pain. Objective: This study aimed to compare the responses of *ashi* acupuncture treatment and local anesthetic injection in the treatment of chronic pelvic pain (CPP) secondary to abdominal myofascial pain syndrome (AMPS) in women. **Methods:** In this randomized controlled clinical trial, women with a clinical diagnosis of CPP secondary to AMPS were randomized and evaluated using instruments to assess clinical pain, namely, the visual analogue scale (VAS), numerical categorial scale (NCS), and the McGill Questionnaire, after receiving treatment with *ashi* acupuncture (group A, n = 16) or local anesthetic injections (group B, n = 19). They were reevaluated after one week and 1, 3, and 6 months after each treatment, in addition to assessments of pain and adverse events performed during the sessions. **Results:** *Ashi* acupuncture and local anesthetic injections were both effective in reducing clinical pain assessed through the analyzed variables among study participants. There was no difference between the groups and there was a strong correlation between these pain assessment instruments. **Conclusion:** Treatment with *ashi* acupuncture and local anesthetic injections were effective in reducing clinical pain in women with abdominal myofascial pain syndrome. The authors declare that they have no competing interests.

P134

EFFECT OF DIAZEPAM ON FACILITATING THE PLACEMENT OF DEVICES DURING TUBAL STERILIZATION PROCEDURE BY HYSTEROSCOPY: A RANDOMIZED CONTROLLED TRIAL

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Problem statement: Several factors are suggested to predict the success rate in the placement of tubal devices during tubal sterilization by hysteroscopy, one of these factors is the prescription of pre-procedure medications such as nonsteroidal anti-inflammatory drugs (NSAIDs), which are the more commonly tested drugs used to ease the device placement in the tubas. Also, diazepam, an anxiolytic, may reduce patient anxiety and the tubal motility. Both are recommended by the manufacturer, but there is no evaluation of diazepam used with the purpose of tubal relaxation in order to decrease its vasospasm, what would increase the success rate of the method. The objective of this study was to evaluate the effect of 10mg of oral diazepam prior to the hysteroscopic tubal sterilization procedure, facilitating the insertion of the devices into the tubas. **Methods:** Randomized clinical trial with Eighty-two patients with indication/desire of tubal sterilization by hysteroscopic insertion of tubal device were randomized in 2 groups, 43 patients received 10 mg of diazepam thirty minutes prior to the procedure and 39 patients received placebo tabs. The procedure was classified by the physician who performed the device insertion in easy or difficult. Also, other quantitative and qualitative variables were analyzed, such as the duration time of the procedure (measured by a chronometer), the intensity of pain evaluated by pain scale immediately after the procedure, Analogic Visual Scale (AVS) and International Association for the Study of Pain (IASP) Face Scales. **Results:** Regarding the ease of insertion



of the device, the diazepam group presented an easier insertion compared to placebo, but only in the right tuba. There was no difference in pain complain or in the procedure time duration between the two groups. **Conclusion:** The use of 10mg diazepam 30 minutes prior to hysteroscopic insertion of a tubal device for sterilization seems to facilitate its placement, mainly on the right side, however further studies should be performed for its routine recommendation. The authors declare that they have no competing interests.

P135

HYSTEROSCOPIC SURGERY FOR SUBMUCOSAL FIBROIDS PERFORMED IN CONSIDERATION OF THE MYOMA PSEUDOCAPSULE

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Problem statement: Hysteroscopic surgery for submucosal fibroids improves symptoms and fertility. This surgery is a minimally invasive procedure. Hysteroscopic surgery mainly performs incision, excision, hemostasis, cauterization, using a high-frequency current generator to the hysteroscopes. **Methods:** The myoma pseudocapsule (MP) is a structure formed surrounding the uterine fibroid, that in the uterus separates the myoma from normal tissue. MP has a proper vascular network surrounding myoma. MP cells have the features of smooth muscle cells similar to the myometrium. Because, MP are part of the myometrium which compresses the leiomyoma. In this presentation, I will present this technique. **Results:** Recently, I have been performing hysteroscopic surgery for submucosal fibroids leaving pseudocapsules. **Conclusion:** When removing fibroids their MP should be preserved.

P136

THE MANAGEMENT OF PATIENTS WITH PREMATURE OVARIAN FAILURE

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The patients with POF are young are most active in the social and economic aspects of their life. Goal of the study was to develop proper management for POF patients. Materials and methods: Case records were analyzed step by step for all patients: age at first visit; live anamnesis, somatic and gynaecological anamnesis, weight and body mass index; Kupperman index; serum testosterone, estradiol, LH, FSH, TSH, Prt; ultrasound examination; histological investigation; roentgenography of „seli turcica”; mamography. Results. The study were 121 patients with POF, aged 35 - 45 years, average age $38 \pm 1,3$ years old. All evaluated patients had high education: in 43 cases - doctors, in 42 cases - teachers and in 36 cases - other specialists. The duration of amenorrhoea varied between $4,8 \pm 3,4$ years. Clinical symptoms of POF began, as follows: in group of 40-45 years old patients when climacteric like syndrome appeared after 9-12 months of amenorrhoea, in group of 32-35 years old patients after the same period of amenorrhoea, in group of 36-39 years old patients besides climacteric like syndrom there were psychical disturbances. Treatment: In group of 32-35 years old patients cases and in group of 36-39 years old patients cases high level of testosterone was determined and therefore these patients were treated with Climen, in sequential regimen, until 48 - 50 years old and then switched to continuous postmenopausal regimen with Klimodien or Angeliq - during 3-4 years. In group of 40-45 years old patients cases the treatment started with Climen, in sequential regimen, until 48 - 50. After, they were switched to continuous postmenopausal regimen with Klimodien or Angeliq during 3-4 years. In the conclusis - HRT in the appropriate dose until the age

of 50, the age of physiological menopause. After this women need continuous HRT with low hormonal doses. The HRT in POF women can continue 9-10 years in sequential regimen followed by 3-4 years of HRT in continuous regimen. I am not disclosure of Interest.

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PHOTODYNAMIC THERAPY OF CHRONIC ENDOMETRITIS IN INFERTILITY

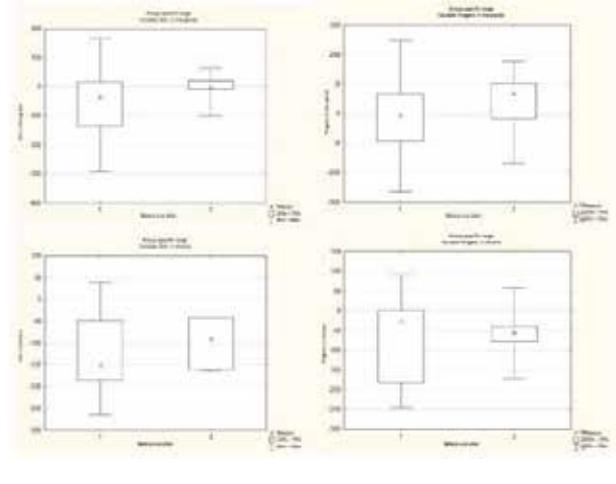
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Keywords: photodynamic therapy, infertility, chronic endometritis, estradiol, receptivity

Problem statement: Chronic endometritis (CE) can cause infertility, miscarriages, unsuccessful in vitro fertilization and embryo transfer. A modern and promising high-tech method of treating CE is photodynamic therapy (PDT). Objective: to determine the effectiveness of CE treatment by intracavitary PDT (IPDT) in patients with infertility. **Methods:** 125 CE patients of childbearing potential were examined, treated and divided into 2 groups: Group 1 - 65 patients treated by IPDT on Day 21-23 of the menstrual cycle (invention No. 2017129530 dated August 18, 2017) and low doses of transdermal 17-β-estradiol (Divigel 0.1%); Group 2 - 60 patients treated conventionally (antibacterial, anti-inflammatory, detoxification, immunomodulatory medication) and with medium doses of transdermal 17-β-estradiol (Divigel 0.1%). **Results:** sonography showed almost 2 times higher thickness of the endometrium after PDT vs the baseline in Group 1, and slight changes in the thickness of the endometrium in Group 2. On Day 12 of the menstrual cycle, the post-PDT thickness of the endometrium in Group 1 increased to 10.7 ± 0.85 mm vs 6.1 ± 0.74 mm in Group 2. An immunohistochemical test of the endometrium showed that the phases of the menstrual cycle correlate with the presence of steroid hormone receptors (SHRs), both in glandular epithelium nuclei and stromal cells (Fig. 1). CD138+ with high numerical density in endometrial stroma and diffuse distribution were found in 96.2% of CE patients. The abnormal SHR expression in the glands and stroma, as well as the Ki67 proliferative activity, significantly decreased in Group 1, and the distribution of progesterone receptors in the glands and endometrial stroma decreased in Group 2. **Conclusion:** IPDT is a minimally invasive, sparing and safe treatment that restores the morphofunctional state and estrogen/progesterone receptivity of the glands and endometrial stroma. Transdermal 17-β-estradiol (0.1%) causes adequate thickening of the endometrium. Comprehensive treatment in CE patients produces a persistent clinical effect, restores the fertility and reduces the pregnancy complication risk.



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A RARE CASE OF PERINEAL SCAR ENDOMETRIOSIS EXTENDING UPTO THE INTERNAL ANAL SPHINCTER. DR. UF SHAH, MR. CP LIM EAST & NORTH HERTFORDSHIRE NHS TRUSTUmme Farwa Shah², Umme Farwa Shah^{1,2}, Chou Phay Lim^{1,2}¹Obstetrics & Gynaecology, East & North Hertfordshire NHS TRUST, Stevenage, UK²Obstetrics & Gynaecology, East & North Hertfordshire NHS TRUST

Perineal scar endometriosis is a rare condition with an incidence of about 0.03-0.15%. Early diagnosis and treatment is very important as delay in doing so not only prolongs the agony of the patient but also puts her at risk of disease extension. A 28 years old lady presented with a 2 years history of severe pain in the perineum which aggravates massively during menstruation. She gave a history of a small lump in the vagina. She also had a history of suprapubic pain radiating to the back down to her thighs. She also had history of dyspareunia and dyschezia. She was a Para 1 with a Spontaneous vaginal delivery with Episiotomy 3 years ago. She had a previous history of endometriosis diagnosed due to severe dysmenorrhea 7 years ago. She had tried Depot- Provera and COC in the past but with no relief. The abdomen was mildly tender. A 1cm firm nodule was palpated at the apex of episiotomy scar. Her pain intensity was reduced with Morphine. She was advised to take Troptorelin injections in the interim with a plan to be seen by Endometriosis specialist who decided to do a diagnostic laparoscopy and reasonable management of any endometriosis of peritoneal cavity and excision of perineal scar endometriosis. Per op: Endometriosis was found on pelvic side walls overlying the ureter for which ureterolysis was performed. A hard lump was felt 3 x4x3 cm sitting at the apex of perineal scar. It was excised through a right mediolateral incision. As it was extending up to the level of internal anal sphincter. 3-0 PDS was used to repair the internal & external anal sphincter. Vicryl 0 rapide was used to reconstruct the deficient perineal body and to repair the perineum. post op on Day 2 a perineal haemoma was seen which was managed conservatively. She was discharged home with antibiotics and laxatives. **Result:** She was seen 3 months after the surgery and is doing fine and will be followed up. **Conclusion:** A detailed history and meticulous pelvic examination is essential for diagnosis. Surgical option is a very reasonable approach. There should be high index of suspicion.

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UTERINE NECROSIS FOLLOWING SELECTIVE EMBOLIZATION FOR POSTPARTUM HEMORRHAGE: REPORT OF FOUR CASES AND REVIEW OF LITERATURE

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Problem statement: When conservative management fails to control postpartum hemorrhage, surgical treatments or uterine artery embolization (UAE) must be considered. Uterine necrosis is one of the rare complications that may follow uterine arterial embolization for PPH. We report four cases of uterine necrosis in Korea. **Methods:** Through four cases in this experience, the authors analyzed and reviewed uterine necrosis after embolization. **Results:** Case 1 was diagnosed as total uterine necrosis and subsequent total laparoscopic hysterectomy was performed. Cases 2 and 4 were considered as partial uterine necrosis with expelled necrotic mass within two months after uterine artery embolization. Case 3 was also suspected uterine necrosis. Bulky uterus was seen with hypoechoic endometrial line without vascularity in myometrium. **Conclusion:** It is very difficult to choose between surgery and conservative treatment options when deciding how to manage uterine necrosis. It is important to fully explain the possibility of amenorrhea and other complications to

patients when conservative treatment is being considered in the management of uterine necrosis after UAE. Following UAE in PPH, the medical team should aggressively evaluate and manage symptoms of fever, lower abdominal pain, profuse vaginal discharge, and bulky uterus without visible endometrium in US.

Keywords: Postpartum hemorrhage; Pelvic vessel embolization; Ultrasound; Uterine necrosis.

P140

CONTROVERSIAL OUTCOME IN TWO DIFFERENT GTD WITH SAME SONOGRAPHIC IMAGE: A CASE REPORT

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Gestational trophoblastic diseases represent a group of both benign and malignant tumors. The main types of GTD are hydatidiform mole (complete or partial), invasive mole, choriocarcinoma, placental-site trophoblastic tumor and epithelioid trophoblastic tumor. We would like to present two case reports about the patients with two completely different types of GTD, but with same ultrasonographic images. Former patient was firstly diagnosed with partial molar pregnancy that aggravated to invasive mola hydatidosa despite repeated D&C and chemotherapy and latter, first ambiguously diagnosed with placental site trophoblastic tumor and after repeated D&C, diagnosed with partial hydatidiform mole, which later expressed invasive potential. Both patients were in reproductive age and both patients finally required operative therapy. It is important to emphasize these findings in order to take more precaution when there is even the slightest doubt in GTD, because timely diagnosed disease implicates adequate therapy, and in the end, it is as beneficial for the patient as for the medical unit. Patient consent Written informed consent was obtained from the patients for the publication of this case report.

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LEIOMYOSARCOMA IN PREGNANCY – INCIDENTAL FINDING OF LEIOMYOSARCOMA DURING CAESAREAN SECTION

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Problem statement: Uterine leiomyosarcoma (LMS) is an uncommon malignancy. Majority of cases occur after childbearing age and incidence during pregnancy is even rarer, with only 8 cases reported thus far. **Methods:** We present a case report of an incidental finding of uterine LMS associated with pregnancy after myomectomy was done for a subserosal fibroid during caesarean section. **Results:** Patient is a 30 year old para 2, with a known history of fibroid on regular follow-up since 2015. Spontaneous pregnancy was achieved and the fibroid was closely monitored. It is worth noting that in her previous pregnancy, the apparent same fibroid also grew to a significant size but shrunk post pregnancy; therefore, there was no initial suspicion of malignancy. Lower midline caesarean section for breech presentation was performed on 21/12/19 at 38+3 weeks. Intraoperatively, a 19cm subserosal fibroid was seen in the right lower uterine segment.



Concurrent myomectomy was performed in view of easy access of fibroid. Histopathology of the fibroid showed high grade spindle cell leiomyosarcoma. Post operatively, staging scan revealed a stable fibroid corresponding to the one seen on ultrasound previously in 2015, with no radiological evidence of distant metastases. Completion surgery with total abdominal hysterectomy, bilateral salpingo-oophorectomy, bilateral pelvic lymph nodes dissection and omental biopsy was performed on 14/2/19. Histology showed small amount of focal residual leiomyosarcoma within its wall with no evidence of local or distant metastasis. Multidisciplinary team discussion confirmed Stage 1B high grade leiomyosarcoma. Systemic chemotherapy was recommended in view of high risk of recurrence and medical oncologist was referred. However, patient opted for close clinicoradiologic monitoring instead. 3 months post surgery, patient remained well and healthy, with no radiological signs of local recurrence. **Conclusion:** Although LMS diagnosis in pregnancy is uncommon, it is important to be aware of this possibility for better counselling of patients who have a known history of large fibroids. Physicians can include discussion of this rare possibility of malignancy during pre operative counselling so as to allow patients to make an informed decision regarding removal of large fibroids during caesarean section.

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METHOD OF SURGICAL TREATMENT OF PROLAPSE OF THE ANTERIOR PELVIC FLOOR WITH TITANIUM IMPLANT

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The aim: of the research is to evaluate the effectiveness of the method of surgical correction of cystocele II-III degree using titanium mesh implants. **Materials and methods:** 27 patients with cystocele II-III degree between the ages of 37 and 74 were under surveillance. All patients were given comprehensive clinical examination, surgical treatment with titanium mesh implants according to the developed method and outpatient observation in early and delayed postoperative periods. Patients were subjected to transvaginal and transperineal echographic examination (Toshiba Aplio, Japan) equipped with transvaginal and convex sensors. Magnetic resonance imaging was performed on a 1.5 T/L Simmonds Avanto tomograph(Germany). Surgical correction of degree II-III cystocele was performed with titanium mesh implants that have greater inertness to surrounding tissues than polypropylene framework systems. **The results:** For the formed group of patients we have developed a three-stage organ-saving surgical program within the framework of one transvaginal operation. 1 stage - measurement of two interobturator dimensions with subsequent cutting of trapezoidal flap from titanium mesh in accordance with obtained results. Stage 2 - surgical correction of cystocele of II-III degree (according to the developed method - transvaginal transobturant combined timesth - ligature cystopexia, anterior colporrhaphy, colpoperineolatoroplasty). Stage 3 - pelvic floor strengthening. The duration of the operation ranged from 60 to 85 minutes and averaged 72+12.3 minutes. The blood loss ranged from 100 to 200 ml (150+45.8 ml). Outpatient surveillance lasted 24 months. During the first month, 11 (44%) of them noted non- permanent pain in the lower abdomen and perineum, 4 (16%) - increased call to urination. The questionnaire of the patients showed satisfaction with the results of the surgical treatment, which positively affected the quality of life, mood, increased social and sexual activity of women. In the process of dynamic outpatient observation, gynaecological examination at rest and Valsalva sample, transvaginal and transperineal echography, MRI of significant pelvic organ displacement was not detected. **Conclusion:** The new original method of correction of cystocele with the help of titanium implants will optimize results of operative treatment, reduction of frequency of recurrence of disease,

reduction of risk of development of mesh-associated complications. The results of the research make it necessary to continue scientific and practical work in this direction.

P143

TRANSVAGINAL SURGICAL PREVENTION FOR POSTHYSTERECTOMY PROLAPSE OF VAGINAL DOME IN PATIENTS WITH COMPLETE UTERINE PROLAPSE

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Due to the high frequency of prolapse of the vaginal dome after hysterectomies, the relevance of prevention of post hysterectomy prolapse is beyond doubt. **Purpose:** Evaluation of the effectiveness of a new surgical method for the prevention of post hysterectomy prolapse of the vaginal dome in patients with complete uterine prolapse. **Material and methods:** Between 2015 and 2019, 36 premenopausal and postmenopausal patients with complete uterine prolapse were examined and treated. Transvaginal and transperineal echography, and MRI were performed in all patients before and after surgery, along with the traditional examination. Surgical treatment included a developed three stage surgical program within one transvaginal operation performed under spinal anesthesia. - Stage I - performing a vaginal hysterectomy. - Stage II - a post hysterectomy prevention of prolapse of the vaginal dome using a combination of the patient's tissue (cardinal and sacro-uterine ligaments) and synthetic mesh implants (sacro-spinal-obturator cross colpopexy). - Stage III - pelvic floor strengthening. Duration of surgery ranged from 70 to 80 minutes. Blood loss ranged from 150 ml to 250 ml. Follow-up of patients was performed within 6 to 36 months. Subjectively, all women were satisfied with the results of the operation and felt healthy. Upon gynecological examination, transvaginal and transperineally sonography the dome of the vagina was high. When straining, significant displacement of the internal genitals was not registered. **Conclusion:** A new surgical method for prevention of post-hysterectomy prolapse of the vaginal dome slightly extends the duration of the operation, improves the operation's effectiveness and the long-term positive results reduces the frequency of relapses.

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A RARE CASE OF GENITAL TUBERCULOSIS PRESENTING AS A VULVOVAGINAL ULCER IN A 12 YEAR OLD FEMALE

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Problem statement: Female genital tuberculosis (TB) specifically vulvovaginal TB is a rare form of extrapulmonary tuberculosis caused by Mycobacterium tuberculosis. Presentation and manifestations are varied depending on the affected area. **Methods:** This is a case of a 12 year old, female child who presented with a vulvo-vaginal ulcer for a year associated with dysuria and fever; which was preceded with a straddle injury that was left untreated. Histopathologic examination of the excised ulcer suspected for a neglected infected straddle injury wound revealed chronic granulomatous inflammation with Langhan's type giant cells. Further work-up showed Miliary Pulmonary Tuberculosis on chest x-ray. **Results:** Patient was enrolled in the (Tuberculosis Directly Observed Treatment, Short Course) TB-DOTS program and was prescribed 2 months of Isoniazid + Rifampin + Pyrazinamide + Ethambutol and 4 months of Isoniazide and Rifampin regimen. **Conclusion:** In a country where TB is endemic, there should be a high level of suspicion in female children who presents with vulvovaginal ulcers especially in those



who do not respond to common antibiotic or steroidal therapy. It is prudent to include AFB smear for gram stain and culture in patients with complains of vaginal discharge, dyspareunia, infertility, and pelvic pain

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UNICORNUATE UTERUS WITH FUNCTIONAL RUDIMENTARY HORN: DIAGNOSTIC PROBLEMS

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The prevalence of unicornuate uterus accounts for 2.4 to 13% of all Müllerian anomalies. It may be associated with gynecological and obstetric complications. **Case report:** We report a case of a successful pregnancy in rudimentary horn of unicornuate uterus and postpartum clinical manifestations. The first time uterine anomaly was diagnosed by two-dimensional (2D) ultrasound seven years ago. It was classified as a uterus bicornis. The patient had undergone hysterolaparoscopy for evaluation of case of infertility in 2013. However, no information about rudimentary horn was reported in her surgical record. The pregnancy became two month later. At the first screening ultrasound, the pregnancy was diagnosed in the right horn. The patient was not said about the risk of a rudimentary horn rupture due to misdiagnosis of uterus anomaly. She was transferred to a tertiary referral hospital with the pregnancy-induced hypertension and intrauterine growth restriction and uterus duplex uni colli. At 37 weeks' pregnancy, the patient underwent an urgent cesarean section because of fetal distress and she had a healthy baby girl. During the surgery, unexpectedly no communication with another horn was found. The volume of surgery was limited to caesarean section. After 4 years, the patient came to our hospital with complaints of dysmenorrhea and secondary infertility. An ultrasound examination of pelvis organs with the following three-dimensional transvaginal scan of uterus was performed. The investigation showed a left unicornuate uterus with a non-communicating rudimentary right horn with hematometra and postcesarean scar on it (Class U4a according to the ESHRE/ESGE classification 2013). In addition, hydrosalpinx and endometrioid cyst were diagnosed at the right side. **Magnetic resonance imaging** demonstrated the same images. Removal of right rudimentary horn, rightsided salpingectomy and resection of right ovary were performed. **Conclusion:** The diagnosis and the management of the rudimentary uterine horn are often a challenge. Patients affected by dysmenorrhea and chronic pelvic pain should always be screened with 2D and 3D ultrasound examinations by highexperienced specialist. Complete removal of a communicating or non-communicating functional rudimentary horn with or without pregnancy in it is always recommended to prevent menstrual and pregnancy complications.

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OUTCOMES OF TWO PATIENTS WITH STRUMAE OVARIUM DERMOID TUMOURS

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Problem statement: Struma ovarii is a rare ovarian tumour. The majority of cases are benign. One percent (1%) of all ovarian tumours and 2-5% of ovarian teratomas are strumae ovarii. We present two patients with strumae ovarii following surgery for dermoid cysts. **Methods:** This is a case series on 2 cases of strumae ovarii and their management with varying outcomes. Records of these 2 patients were analysed. **Results:** **Case 1** This Chinese patient is a 43-year-old nullipara with a history of Grave's disease. She had cystectomy for right ovarian endometrioma and left benign cystic teratoma containing a focus of non-neoplastic

thyroid tissue. Nine years after surgery, she developed an abdomino-pelvic mass. On ultrasound, it was a 13 centimeter left adnexal heterogeneous solid-cystic mass with internal septations and vascularity. Ovarian tumour markers were normal. She underwent left salpingo-oophorectomy for a left complex ovarian cyst measuring 12 centimeters in diameter. There were 200 millilitres of ascites and scattered small nodules which were less than 5 millimeters in size on the bowel and peritoneal surfaces. Frozen section of the ovarian cyst was reported to be benign struma ovarii. Paraffin sections of the left tube and ovary revealed highly differentiated thyroid follicular carcinoma, and the peritoneal and bowel nodules contained metastatic thyroid follicular carcinoma. The patient underwent total thyroidectomy. Histology of thyroid gland was benign. The patient also underwent pelvic surgery to clear residual disease. After this, the patient was staged to have stage 3A2 follicular thyroid carcinoma of the ovary and she underwent adjuvant therapy with radioactive iodine.



Case 2 This Chinese patient is a 40-year-old nullipara with previous laparoscopic ovarian cystectomy for right dermoid and left haemorrhagic cysts. Five years later, she presented with a six centimetre anechoic cyst in the right ovary with no intrinsic vascularity or soft tissue within the cyst. She underwent laparoscopic cystectomy, and the histology showed benign struma ovarii. **Conclusion:** Although rare, the first case shows that strumae ovarii have the potential to become malignant – a point to bear in mind when we counsel and follow up patients.

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POSSIBILITIES OF APPLICATION OF INTERFERON ALPHA-2B IN COMBINED TREATMENT OF PATIENTS WITH GENITAL ENDOMETRIOSIS

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Problem statement: It is known that disorders in immune system play important role in occurrence and progression of genital endometriosis (GE), so the use of targeted immunomodulatory therapy is considered to be actual direction of treatment of this disease. The aim of the study was to evaluate effectiveness of human recombinant interferon alfa-2 β (IFN α -2 β) in combined treatment of patients with GE. **Methods:** 46 patients with laparoscopically and histologically confirmed diagnosis of GE I-II degree (according to R-AFS classification) were examined. The main group consisted of 21 patients with GE, who were appointed IFN α -2 β (3 million Units per rectum 2 times a day for 10 days) together with 1st injection of gonadotropin releasing hormone agonist (aGnRH), after a 10-day interval, the second course of

immunomodulatory therapy was conducted. Comparison group included 25 patients with GE who received monotherapy with aGnRH for 6 months. Before surgery and 6 months after beginning of treatment severity of pain syndrome was assessed on the basis of visual-analog scale. At the same time levels of IL-8, IP-10, TNF- α , MCP-1, RANTES in peripheral blood (PB) were studied by means of flow cytometry. **Results:** In the main group we found more pronounced decrease in severity of pelvic pain (by 90.5%) and dyspareunia (by 85.7%) compared to the second group (76% and 80% respectively). After treatment the level of IL-8 in the main group didn't change, while in the comparison group its level increased by 31.64%. Level of RANTES decreased more significantly in patients who received immunomodulatory therapy (15% and 4.7%, respectively). Level of MCP-1 increased by 14.2% in the study group compared with its decrease by 17.6% in the group of monotherapy with aGnRH. TNF- α level did not change significantly; IP-10 level tended to increase in both groups. **Conclusion:** The use of IFN α -2 β in combined therapy of GE showed good clinical effect, more over changes in cytokine profile indicated more evident suppression of inflammation and angiogenesis in comparison with standard regimens of treatment.

P148

THE ROLE OF NEUROKININ B IN THE PATHOPHYSIOLOGICAL MECHANISMS OF VASOMOTOR SYMPTOMS AND SLEEP DISORDERS IN POSTMENOPAUSAL WOMEN

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Problem statement: Menopausal vasomotor symptoms (VS) and sleep disorders are a significant socio-economic and medical problem occurring in almost 65% postmenopausal women. Research of the pathophysiology of VS is vital for the development of target therapy. **Methods:** 80 women were divided into 3 groups: postmenopausal women with VS and sleep disorders (Group I, n=25) postmenopausal women without VS and sleep disorders (Group II, n=25), and 30 women of reproductive age with a regular menstrual cycle (Control group III). Group I received MHT 17- β estradiol transdermal gel 0.75 mg daily and micronized progesterone 100 mg daily vaginally. Menopausal symptom frequency and intensity evaluated by the Greene Climacteric Scale (GCS) questionnaire and subjective sleep assessment. Determination of serum neurokinin B (NKB) levels was carried out by enzyme immunoassay ("Neurokinin B" cat. No. S-1271 Peninsula Laboratories International, Inc., USA.). **Results:** Patients of the I and II groups were comparable in age, postmenopause duration and anthropometric indicators. NKB levels in Groups I and II were significantly higher compared to the control group (P1 0.0001, P2= 0.003). NKB levels in Group I were 2.3 times higher than in Group II (P3 0.001). The results showed a clear and clinically relevant reduction of menopausal symptoms under MHT after 12 weeks of treatment in Group I. Hot flushes disappeared in 10 patients (40.0%) (p=0.0001), complete disappearance of night sweating was noted in 16 women (64.0%) (p0.05). A relief or complete disappearance of sleep disorders was observed in 16 women (64.0%) (p=0.0001). After 12 weeks NKB levels in Group I decreased from 269.72 \pm 40.79 PG/ml to 83.56 \pm 26.07 PG/ml (p= 0.0003). **Conclusion:** The increase of NKB serum levels in postmenopausal women compared to women of reproductive age may be due to the activation of hypothalamic KNDy neurons in postmenopause. The increase in NKB levels in patients with menopausal symptoms compared to asymptomatic women and its MHT-associated decrease suggests the important role of NKB in the pathogenesis of VS and sleep disorders in postmenopausal women.

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STUDY ON THE MECHANISM OF LYSYL OXIDASE FAMILY IN ENDOMETRIAL FIBROSIS AFTER INJURY

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Problem statement: Lysyl oxidase (LOX) family, as we know, are involved in the formation of covalently crosslinking of collagen fibers and elastic fibers, which may play an important role in molecular crosslinking. So, we speculate that the LOX family may have great effects in the process of endometrial fibrosis. Studies have shown that with the increase of TGF- β 1 expression in the endometrium, the severity of endometrial fibrosis increased synchronously. In our study we detected the expression of LOX family in rat fibrosis endometrium and explore the correlation between the expression of LOX family and TGF- β 1/Smad signaling pathway in the process of endometrial fibrosis. **Methods:** 1.The fibrotic endometrial rat models were established by mechanical curettage. 2.Detecting the LOX activity and the expression of LOX family, TGF- β 1,Smad2,Smad3 ,p-Smad2 and p-Smad3 at protein and RNA level in the normal rat endometrium, the fibrotic rat endometrium(the control group) and the endometrium of the rats (the experimental group) which were treated with 200mg/kg/d β -aminopropionitrile which can inhibit the LOX activity. **Results:** The expression of LOX and LOXL1 have a significant rise at protein and RNA level in fibrotic rat endometrium. 2.The expression of TGF- β 1,Smad2,Smad3,p-Smad2 and p-Smad3 in the endometrium of experimental group is lower than those in the control group. **Conclusion:** LOX and LOXL1 are closely related to the formation of endometrial fibrosis which are closely related to TGF- β 1/Smad signaling pathway during the formation of endometrial fibrosis. Declaration of Conflicting Interests: The authors declared no potential conflicts of interest with respect to the research.

P150

Y – GRAFT APPLIATION IN THE REPAIR OF PELVIC FLOOR FUNCTIONAL DISEASE OF DEPARTMENT OF GYNECOLOGY STUDY

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Problem statement: This study reviews the clinical research and analysis of female pelvic floor reconstruction using Y- graft to repair function of clinical curative effect. **Methods:** This study included in our hospital from January 2015 to December 2015 were 10 cases of female pelvic floor functional disorder patients. They are used by Y- graft to laparoscopic sacral vaginal suspension treatment. We recorded perioperative indicators (average operation time, blood loss, such confinement, complication rates), and regular follow-up was performed at different time points record POP - Q staging, and USES the PFIQ life scale subjective satisfaction survey.



Results: All the patients were completed at least 1 years of follow-up, postoperative POP - Q (preoperative improved significantly (P

0.05), PFIQ - 7 life scale score also prompt improved obviously (P 0.05). All of the patients have no associated complications, treatment satisfaction as a whole. **Conclusions:** Using Y-graft in laparoscopic repair heavy female pelvic floor functional defects, suitable for human body biomechanical characteristics, are older women with minimally invasive, conform to one of the anatomical repair treatment of pelvic floor reconstruction.

HVP

P151

P16/KI67 EXPRESSION AND THE APPLICABILITY THROUGH DIFFERENT AGES

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Problem statement: Human papilloma virus (HPV) infection is one of the most common sexually transmitted diseases. The infection prevalence is higher in younger ages, as it's spontaneous resolution, making HR-HPV (high risk human papilloma virus) test less advantageous. CINtec PLUS is an histochemical immunoassay which evaluates the p16 and ki 67 tissue expression. Under normal physiological circumstances, they aren't simultaneous active, indicating cellular cycle deregulation. So, this test can be useful identifying cases with higher risk of bad outcomes. The goal is to evaluate the CINtec PLUS test capability to predict HPV infection resolution along different life stages. **Methods:** Retrospective clinical information was collected, from cases from Cervical Cancer Screening consultation of our hospital. We selected cases with initial pap-smear *negative for intraepithelial lesion and malignancy* (NILM) (if HR-HPV positive), *atypical squamous cells of undetermined significance* (ASC-US) (HR-HPV positive) e *low-grade squamous intraepithelial lesion* (LSIL) in whom the p16/ki67 was performed. Social-demographic information, initial and subsequent pap-smear result, and CINtec PLUS test result were collected. The patients were divided in 2 groups (group1: age equal or under 30 years old; group2: age over 30 years old). The groups were compared. **Results:** 138 cases were selected (2017-2019) (34 cases in group 1 and 104 cases in group 2). HR-HPV became negative in 50% cases of group 1 and 47.8% of group 2. When CINtec PLUS results were compared with the infection resolution, there were no differences in group 1, however, there was a significant difference in the group of women over 30 years old. **Conclusion:** In our study, we did not verify a higher proportion of HPV infection resolution in group 1, in opposition to the study reports. The small number of cases in our sample is one limitation of the study. The follow-up (only 12 months) could be an important bias since it can be a short time to provide a complete HPV infection resolution in the younger group.

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MEDICAL PROVIDERS' ATTITUDE TOWARD HPV VACCINATION, ISRAEL, 2017

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Problem statement: Investigating the awareness and attitude of physicians to HPV infection and vaccination among gynecologists, pediatricians and other physicians. **Methods:** Questionnaires were distributed to about 200 physicians, each questionnaire included 29 questions divided into three parts. The first part included 10 questions about demographics of the participants, the second part contained 8 knowledge-based questions on HPV and the vaccine.

The third part included 11 questions that examine the approach to the HPV vaccine in terms of vaccination recommendation, the motives and the barriers to vaccination, and management with parents who hesitate to vaccinate their children. The questionnaires were distributed to physicians from different areas of specialty: gynecologists, pediatricians, internists, surgeons, interns, geriatricians, etc. **Results:** There were 139 responders, 26% of the participants were gynecologists, 10% were pediatricians, and the remaining 62% were doctors from various specialties. We thoroughly scanned and analyzed the questionnaires, and were able to deduce the following: In both parts containing knowledge-based questions and vaccine recommendation for girls, the results yielded no significant difference between gynecologists and other physicians. Gynecologists and other physicians demonstrated no significant difference in recommendation for vaccination of teenage boys, however there was a difference between Gynecologists and Pediatricians although still statistically insignificant, Pediatricians are 4.73 times more likely to recommend vaccination to teenage boys. Doctors were more inclined to recommend vaccine to girls more than boys, while parental preference of vaccination between boys and girls was statistically insignificant. Pediatricians demonstrated more effort compared to other doctors, in an attempt to persuade parents to vaccinate their children. **Conclusion:** Doctors from all areas of specialty should generate more effort to spread awareness and reinforce the importance of the HPV vaccine, and convince the targeted group to be vaccinated.

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PREVALENCE OF HIGH-RISK HPV AND ITS DISTRIBUTION IN CERVICAL PRECANCEROUS LESIONS AMONG 35-64 YEARS OLD WOMEN WHO RECEIVED CERVICAL CANCER SCREENING IN BEIJING

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Problem statement: The prevalence of high-risk HPV (HR HPV) in women who accepted cervical cancer screening in Beijing and its distribution in cervical precancerous lesions is not known. **Methods:** From January 2014 to March 2015, all women aged 35-64 years old and received free screening in institutions of cervical cancer in Beijing were recruited. Stratified cluster random sampling method was used in selecting 31091 women for gynecological examination and genotyping of HR-HPV. Those positive for HR-HPV (except for HPV16/18) were examined for cervical cell. For those atypical squamous cells of uncertain significance (ASCUS) and above, who were positive for HPV16/18 and with uncertain results for cervical cell, were transferred for colposcopy examination. For those with suspicious or abnormal results for colposcopy, were transferred for histopathology. The prevalence of HR-HPV, cervical cancer and precancerous lesions among the participants were analyzed. **Results:** Totally 31091 women aged from 35-year-old to 64-year-old, with 44.3%(13780women) in the 35-49 age group and 55.7%(17311women) in the 50-64 age group. 66.1%(20536women) were rural women. The infection rate of HR-HPV was 7.4%(2305cases) among the women. High-risk infection rates of HPV except HPV 16/18 were 5.7%(1758cases), and multi-infection rate was 1.5%(477cases). The highest infection rate was 7.9%(1044cases) among the 45-49 year-old and 50-54 year-old age groups ($\chi^2=14.07, P=0.015$). The rate in rural women was significantly higher than that of the urban women (6.2%, 507cases; 7.9%, 1798cases) ($\chi^2=25.75, P<0.001$). The proportion of HPV16, HPV18, HPV52, HPV51, HPV58 was 17.0%(391cases), 6.9%(161cases), 8.6% (20cases), 5.2%(12 cases) and 7.7%(18cases), respectively. The detection rate of cervical cancer and precancerous lesions in the population was 395.6/100000 (123 cases). In high-grade squamous intraepithelial lesions (HSIL), HPV16 and 18 infections accounted for 60.5% (72 cases) of all. HPV16 infection rate and detection rate of HSIL were



the highest in 50-54 year-old group which were 1.5% (107 cases) and 25.2% (30cases)($\chi^2=11.54$, $P=0.042$). **Conclusion:** Top five types of HR-HPV infection in women who accepted cervical cancer screening in Beijing were HPV16,18,52,51 and 58. The infection rate of HPV16 and 18 increased significantly in HSIL women. HPV16 infection rate and detection rate of HSIL were the highest in 50-54year-old age group. Disclosure of Interest: NO

OTHER

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SIGNIFICANT PUBIC SYMPHYSIS DIASTASIS FOLLOWING KIWICUP DELIVERY: REPORT OF A SEVERE CASE

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Background: Symphysis pubis diastasis (SPD) refers to separation of the pubic symphysis joint without fracture (Shnaekel et al. 2015). It is a serious maternal complication of delivery, resulting in significant pain and disability (Shnaekel et al. 2015). Management options include conservative therapy or surgical fixation with no consensus on optimal treatment (Nayak and Panda 2017). **Case:** A 31-year-old female (G1P0) with a pre-pregnancy BMI of 19 and no antenatal complications or medical comorbidities presented at 39+3 weeks gestation presented in spontaneous early labour. She had a prolonged first stage lasting 17 hours and 10 minutes. Her labour was augmented with syntocinon infusion and she had epidural analgesia. Due to an abnormal cardiotocogram during the second stage with reduced variability and prolonged variable decelerations, instrumental delivery was under-taken. She was placed in the lithotomy position; episiotomy was performed and a live infant was delivered with kiwi cup on second pull with gentle traction. The infant's birth weight was 3050g with a head-circumference of 34cm. The delivery was complicated by primary post-partum haemorrhage of 600mL managed with uterotonics. On the first postpartum day, she reported worsening severe pain in the mons pubis, lower abdomen and back, with inability to mobilise. X-ray demonstrated SPD, with diastasis of 53mm and bilateral sacroiliac joint (SIJ) widening was identified on Magnetic Resonance Imaging. Operative management was undertaken by anterior external-fixator frame that remained on for six weeks. Bilateral percutaneous SIJ screws were also inserted. She remained admitted for nine weeks, encompassing six weeks of bed rest. At the time of discharge, she was ambulant with a support frame and improving stiffness and pain. **Discussion:** The aetiology of SPD post-vaginal birth is poorly understood, with many possible risk factors including hyper-flexed legs during delivery, forceps delivery and epidural analgesia suggested but not substantiated by statistical evidence (Yoo et al. 2014). Traditionally, conservative management has been used to manage SPD, however recent literature suggests improved outcomes following surgical management (Nayak and Panda 2017). However, the management of SPD with external fixation postpartum, as in this case, has been rarely described in the literature. Reference list available on request

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EVALUATION OF THE UTILIZATION OF THROMBOPROPHYLAXIS IN OUT-PATIENT PREGNANT WOMEN AT SQUH

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Objectives and rationale: To find the prevalence of Omani pregnant women with thromboprophylaxis medication, to evaluate the adherence and non-adherence to the medication and to discuss the possible factors contributing to not adhering to the

medication in Sultan Qaboos University Hospital (SQUH) in Oman. **Materials and methods:** A cross-sectional survey conducted in Obstetrics and Gynecology (OBGYN) clinic in SQUH between November 2018 and January 2019. With the help of the hospital electronic medical records, total number of pregnant women who visited OBGYN clinic at the study period were included in this study and the number of patients who were on thromboprophylaxis medication was obtained. Patients were grouped into adhering and non-adhering group according to WHO definition of non-adherence. Different parameters were collected from a question sheet which was distributed to the targeted patients and data were compared between the two groups by SPSS version 23. **Results:** Total number of pregnant women who visited OBGYN at the study period was 375 patients. Out of them, 75 patients were prescribed on thromboprophylaxis but 65 agreed to be part of the study. About 73.8% of patients were on anticoagulant drugs throughout pregnancy while the rest started the drug from week 28 onwards. It was found that 33.8% of pregnant women on anticoagulant drugs do not adhere to their medication. Forgetfulness was the main reason of not adhering at 71.4% whereas 28.6% stated non-adherence due to other reasons. One significant factor that led to low adherence was in case of noticing any medication side effect and stopping the medication immediately. Other factors are discussed in the result section. **Conclusion:** Proportion of pregnant women who are prescribed thromboprophylaxis in the study period was 20%. Majority of pregnant women on thromboprophylaxis medication are highly adherent to their therapy. Minority that did not adhere to medication stated non-adherence due to forgetfulness. Front-line clinical staff should stress in informing the patient about adherence importance and may suggest medication reminder apps.

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A CASE OF NECROTISING FASCIITIS POST-EMERGENCY CAESAREAN SECTION: A RARE COMPLICATION OF A COMMON PROCEDURE

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Background: Necrotising fasciitis (NF) is a rapidly progressive and invasive soft tissue infection which manifests as fulminant widespread necrosis of the skin, subcutaneous tissues, and fascia planes¹. The risk factors include immunosuppression, diabetes, obesity, malnutrition, anaemia, renal disease, and substance abuse^{1,2}. Surgery is an independent risk factor¹. Very few cases of NF in the obstetric population has been reported. NF has an incidence of 1.8 per 1,000 caesarean section (CS) deliveries³. Prompt diagnosis, antibiotic administration, and surgical debridement are paramount for patient survival. Here, we report a case of NF post-CS that was successfully managed. **Case presentation:** A 37-year-old primiparous woman with Class 3 Obesity and a positive Group B Strep (GBS) vaginal culture underwent induction of labour for postdates. The labour progressed slowly with prophylactic antibiotics and an epidural. She developed maternal pyrexia at 9cm. She progressed to full dilation however a prolonged second stage resulted in a trial of instrumental delivery in the operating theatre. The outcome was an emergency CS at full dilation after an unsuccessful kiwi cup vacuum due to malposition at occiput transverse and no descent nor rotation. The skin was closed with staples and a sterile negative pressure dressing applied. She re-presented six days post-operatively with abdominal pain, subjective fevers, and wound empyema. There was skin peeling, epidermolysis, and purulent discharge with dressing removal. Operative wound debridement found necrotic, non-blanching adipose and dermis that was debrided to bleeding dermis and copious pungent haemopurulent discharge was drained. The wound was packed and dressed with a new negative pressure dressing. In total, 60% of her lower abdomen/panniculus was excised. Tissue from the debridement grew *Bacteroides*



fragilis. Her full course of inpatient management comprised of 33 days, 8 wound operations until definitive wound closure, and intravenous antibiotics for 19 days. **Conclusion:** NF post-CS is a rare entity with significant morbidity and mortality that surges with increasing time to intervention^{4,5}. Multidisciplinary management with early clinical recognition, serial extensive surgical debridements, broad-spectrum antibiotics, and supportive therapies are crucial for preventing systemic deterioration^{2,6}. Full references on request: Nikolaou, 2014, Chhetry, 2016, Goepfert, 1997, Nissman, 2011, Bartkeviciene, 2017, DeMuro, 2012

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PREIMPLANTATION GENETIC DIAGNOSIS (PGD) FOR DUCHENNE MUSCULAR DYSTROPHY (DMD) USING MULTIPLEX NESTED PCR: A SINGLE MEDICAL CENTER EXPERIENCE AND EVOLUTION ALONG SIXTEEN YEARS

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Problem statement: DMD is a progressive genetic disorder that can be prevented by applying PGD technology. Our aim was to evaluate our evolving performance along the years in the program of PGD for DMD families regarding the accuracy and reliability of diagnosis, and the reproductive outcomes. **Materials and methods:** A retrospective cohort study of all couples who underwent PGD in our unit between 5/2002-12/2018. Accuracy of diagnosis was evaluated by the rates of conclusive diagnosis, allele drop out (ADO) rate, amplification failure (AF) rate, misdiagnosis risk, and re-biopsy rate due to inconclusive results. Reliability was based on diagnosis of control isolated single leukocytes and on prenatal diagnosis. We stratified our data to three different chronological periods and compared our performances. Group A: 5-2002-9/2004, group B:10/2004-12/2011, and group C:1/2012-12/2018. **Results:** Thirty three patients underwent 152 PGD cycles, embryo transfer was done in 137 cycles, 30 women had a clinical pregnancy, 22 had a live birth (4 had twins), 7 had miscarriages, and 1 pregnancy is ongoing. As we advanced along the time periods, an increase in the total number of informative markers used per cycle was prominent with 4.35 (±1.3) in group B compared with 7.21 (±1.8) in group C (P<0.001), while AF rate decreased significantly from 5.89% in group B to 3.02% in group C (P=0.008). The ADO rate was not significantly different between group B with 0.52% and group C with 0.41% (P=0.768). However, the misdiagnosis risk decreased significantly from 0.82% in group B to 0.02% in group C (P<0.001). **Conclusion:** In 2005 we started using haplotypes which enabled us to discriminate between carrier and healthy female embryos. Due to the large diversity of the informative markers that we gained through the way, In 2012 we changed the policy of two blastomeres aspiration to a biopsy of one single blastomere. As for December 2018 we have more than 30 informative markers readily available for use in order to build the most informative haplotypes. Altogether we gave the opportunity for 33 couples, who finally gave birth to 26 children free of DMD disease and our work is still ongoing

PGD PERFORMANCE:

	Total	Group - A	Group - B	Group - C	P value
Time period	5.2002-12.2018	5.2002-9.2004	10.2004-12.2011	1.2012-12.2018	
ADO rate - average per cycle (%)	4.8	50.8	1.3	4.8	P=0.768
Misdiagnosis rate for female embryos - average (%)	0.41	50.8	0.82	0.02	P=0.001 (B>C)
AF rate - average per cycle (%)	4.33	5.89	3.89	3.02	P=0.008 (A>B>C)
Embryos with conclusive diagnosis (%)	89.4	83.38	89.43	90.71	P=0.382
Embryos diagnosed with overage-over (%)	1.83	0	1.73	2.62	P=0.262
Embryo rate (%)	1.54	2.38	0.40	2.38	P=0.111
Embryos diagnosed with contamination (%)	1.11	0.03	2.48	1	P=0.332 (A>B>C)

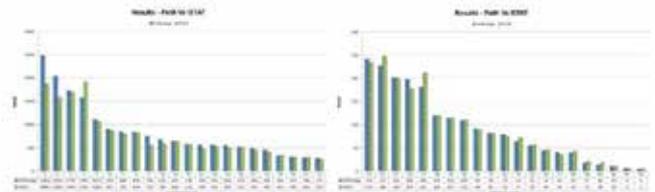
a) Calculated as the calculated ADO rate per cycle by the power of the number of fully informative markers.

P158

A PILOT STUDY OF HCG POINT OF CARE TESTING: THINKING OUTSIDE THE LAB

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Problem statement: Point – of- care (POC) testing for human chorionic gonadotrophin (HCG) has the potential to shorten diagnostic pathways, improve patient experience and contribute to cost improvement plans. In the future we believe it is likely to be adopted the method of choice for diagnosis confirmation or exclusion of pregnancy in the acute hospital setting. However, in our opinion it should compliment rather than replace quantitative assays of HCG, as quantitative assays facilitate the monitoring of pregnancies in which a visible intrauterine sac hasn't been seen yet, that is to say pregnancies of unknown location (PUL). The Abbott ISTAT POC device is the first approved device to provide quantitative HCG assays using whole blood. Our aim was to assess the validity of using the ISTAT point of care HCG assay by comparing it to a standard laboratory serum test. **Method:** We analysed data on 51 consecutive patients attending the early pregnancy unit at the Royal Bournemouth Hospital (UK) from 15/12/2018 to 30/01/2019. Blood samples with a wide range of HCG concentrations were analysed by both methods. Results were plotted and a percent difference was calculated for means of comparison. **Results:** Quantitative assays were available for 43 of the 51 samples, in the remainder samples the device reader displayed the result as (5) or (2000). The ISTAT POC demonstrated acceptable performance for quantifying HCG in comparison to the standard laboratory method in the range 5 to 1500iu, However there was a relatively high percent difference for HCG levels approaching 2000 IU (maximum percentage :37.8%)



Conclusion: In our pilot study the Abbott ISTAT POC device produced comparative results to quantitative HCG testing up to 1500iu. Above this there were limits to it's accuracy but this could well reflect our lack of data. Nonetheless this is well within the range and clinical utility to be a valuable tool in shortening diagnostic pathways and improving overall patient experience. Our data set is small and larger studies are required to determine the sensitivity and specificity before the device is more broadly adopted by early pregnancy assessment units.



P159

UNEXPECTED APPENDICULAR MALIGNANCY IN A TRANSGENDER MAN ON EXOGENOUS TESTOSTERONE SUPPLEMENTATION

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Introduction: We present a transgender man who had an incidental finding of an appendicular mass on imaging that turned out to be an appendicular malignancy. **Case:** A 35-year-old transgender man with BMI 50, hypertension and sleep apnea was referred with heavy menstrual bleeding not improved by Mirena coil and endometrial ablation. The patient underwent transgender treatment with bilateral mastectomy and testosterone injections for last 5 years. Further gender-reassignment operation was postponed until the patient lost further weight. Pelvic ultrasound scan showed a fibroid uterus with right adnexal mass and mildly raised CA125 (48 kU/L) and CA19-9 (65kU/L). MRI scan suggested uterine adenomyosis with possible mucocele of the appendix. Colonoscopy was normal. Following gynae MDT, the patient underwent total laparoscopic hysterectomy with bilateral salpingo-oophorectomy (converted to an open due to an approximately 22 week-sized fibroid uterus) and appendectomy, performed jointly by gynaecologists and general surgeons. The appendicular mucocele was resected without perforation. Histology confirmed an atrophic endometrium and low-grade mucinoid neoplasm of the appendix with no involvement of the margins. The patient was discharged on the third postoperative day. Discussion at colorectal MDT determined that surveillance CT be performed at 6 months.

Discussion: Amenorrhoea is generally induced and maintained within 6 months of exogenous testosterone initiation unlike in this case. Testosterone induces a state of unopposed oestrogen due to aromatisation and anovulatory phase, posing a theoretical risk of endometrial cancer. However, half of such endometrium shows atrophy on biopsy like postmenopausal endometrium. Studies in mice and humans have shown testosterone to promote development of colorectal cancer (CRC) and may have a role as biomarker for CRC risk stratification in future. Imaging patient with such high BMI is challenging with all imaging modalities. **Conclusion:** Further studies are needed on the effect of opposite-sex hormone on transgender physiology. The patient continued to have heavy periods despite conservative management possibly because the exogenous testosterone did not allow the uterine fibroids to shrink in size thereby increasing the endometrial surface. The unexpected appendicular malignancy may also be linked to the exogenous testosterone supplementation.

P160

APLASIA CUTIS CONGENITA HEREDITARY FORM - CASE REPORT

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Problem statement: Aplasia cutis congenita (ACC) is a rare disease characterized by congenital partial or complete absence of skin at birth, involving mostly the vertex. The pathogenesis of the condition is unclear and it may occur, either as an isolated defect, or in correlation with other fetal malformations. At this case report we describe an infant born with a 2 cm diameter lesion, localized on the scalp with clear rims and no signs of inflammation. Until the end of the hospital stay of the newborn patient, the wound demonstrated spontaneous granulation. **Methods:** At a planned

Cesarean delivery in 39 week of gestation, a girl was born with weight 3460 grams, height 51 cm and APGAR score 7, 8, 9. During the delivery procedure a 2 cm round lesion was noticed on the head of the baby, specifically at the vertex part. The baby was otherwise healthy, in good condition with no signs of other malformations. The newborn was consulted with neurosurgeon and CT scan was performed with conclusion: Normal CT status. Small intradermal fibrosis occipitally in the left. No changes of the structure of the skull bone and the brain tissue. Later the grandmother of the newborn reported that she also had a Cesarean delivery and her baby (our patient who gave birth) was born with a similar lesion on the skin of the head. It healed spontaneously and nowadays, the mother has a small scar in the vertex part of her head. **Results:** After studying other clinical cases of ACC and consulting with the parents about their desire, conservative treatment was undertaken. At the 4th postnatal day, the lesion was healing well and fresh granulation tissue occurred. The mother and the baby were discharged at the 6th day with a visible improvement in the lesion's condition. **Conclusion:** In this work we present a case with ACC group 1, that was diagnosed after rejecting other possible diseases. Considering all circumstances we decided to try conservative treatment that include local wound care, so the lesion healed spontaneously and surgical treatment was avoided.

P161

PERSISTENT RISE OF BHCG AFTER COMPLETE SURGICAL TREATMENT OF ECTOPIC PREGNANCY- CASE REPORT AND REVIEW OF LITERATURE.

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Problem statement: To gain knowledge of the various causes of persistent rise of HCG measurements after total surgical management of ectopic. **Methods:** A case study in our trust and reference search of various case reports published have been taken into account to draw results. **Results:** Omental and peritoneal secondary trophoblastic implantation are probably the result of disruption of the ectopic pregnancy or morcellation of the fallopian tube at salpingectomy. These implants present with persistent BHCG titres postoperatively and needs to be considered in cases of persistent disease following salpingectomy. Secondary pregnancy by an implant in laparoscopic trocar site has also been reported. The occurrence of simultaneous ectopic pregnancies in two extrauterine locations although rare, particularly in spontaneous pregnancies; and heterotopic simultaneous ectopic and intrauterine pregnancy have been reported. Non pregnancy sources of BHCG like malignancy including gestational trophoblastic diseases, germ cell tumours, paraneoplastic syndrome; pituitary HCG and interfering antibodies remain the other causes. **Conclusion:** BHCG measurements after surgical treatment of ectopic pregnancy is justified to rule out persistent trophoblastic activity. Aim should be to exclude persistent ectopic and non pregnancy sources of BHCG and to minimise morbidity and mortality associated with it.

P162

SECONDARY POSTPARTUM HEMORRHAGE: INCIDENCE, ETIOLOGIES AND CLINICAL COURSES IN THE SETTING OF HIGH CESAREAN DELIVERY RATE

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Background: Secondary postpartum hemorrhage (SPPH) is any significant vaginal bleeding occurring between 24 hours after ending of third stage of labor and following 6 to 12 weeks. The reported incidence was around 0.2-0.8%. Common causes include retention of placenta, endometritis and delayed involution of placental bed. To date, there has been limited number of studies



regarding SPPH. None of the previous studies were done in developing country with high cesarean section rate. **Objective:** To evaluate incidence, etiologies and clinical outcomes of SPPH in the population with high cesarean section rate. Secondary objective was to compare the etiologies of SPPH following cesarean delivery versus vaginal delivery. **Methods:** This was a retrospective study of women who were treated at tertiary-level hospital between January 2004 and June 2018. Descriptive statistics, Chi-square, Wilcoxon Rank Sum and Kruskal-Wallis test were used for data analysis. **Results:** Incidence of SPPH was 0.21%. Total of 123 women were studied. Median onset of bleeding was 12 days after delivery. Fifty-two percent of women were delivered by cesarean section. The most common etiology was endometritis(67.5%) followed by retained placental tissue(21.1%). Women who delivered by cesarean section had higher rate of endometritis(80.0%vs53.4%),while the rate of retained placental tissue was lower(10.8%vs32.8%) than those delivered vaginally. Surgical intervention included uterine evacuation in 29.3% and hysterectomy in 8.1% of women. Six women were treated by embolization. Transfusion was required in 29.3% women. **Conclusion:** Endometritis was the most common cause. Women who delivered by cesarean section were less likely to have retained placental tissue and were at higher risk for endometritis and uterine pseudoaneurysm. **Keywords:** Secondary postpartum hemorrhage, endometritis, retained placental tissue,uterine artery pseudoaneurysm

P163

THE PROGNOSIS OF PREGNANCY IN PATIENTS WITH RECURRENT ABORTION WHOSE CHROMOSOMES SHOW "46,XX/45,X MOSAICISM"

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Problem statement: As one of the major etiologies of recurrent abortion, chromosomal aberration is very important, and the major chromosomal aberration in patients with recurrent abortion is balanced translocation. On the other hand, some patients with recurrent abortion whose chromosomes show "46,XX/45,X mosaicism". Although it is said that "46,XX/45,X mosaicism" is not harmful for the next pregnancy with recurrent abortion, the detailed prognosis of pregnancy in such patients has not been reported. In this context, we analyzed the prognosis of the next pregnancy in patients with recurrent abortion whose chromosomes show "46,XX/45,X mosaicism". **Methods:** Between January, 2012, and September, 2017, chromosomal karyotyping was performed in 469 couples with RPL (two or more consecutive spontaneous abortions), after obtaining their informed consent. The frequency of patients whose chromosomes showed 46,XX/45,X mosaicism was analyzed and the outcome of the next pregnancy in patients with 46,XX/45,X mosaicism was investigated. **Results:** Among 469 patients with recurrent abortion, 14 patients' chromosomes showed 46,XX/45,X mosaicism. Thus, the frequency was 3.0%. Among the 14 patients who showed mosaicism, 10 patients have so far experienced 12 pregnancies. Eight of these pregnancies continued successfully, and the patients delivered normal mature infants. The rate of successful pregnancy was 66.7% (8 of 12), and the rate of successful pregnancy among individuals with mosaicism was 80.0% (8 of 10). **Conclusion:** Our study suggested that 46,XX/45,X mosaicism in patients with recurrent abortion does not have a bad effect on the subsequent pregnancies in these patients. However, it will be necessary to analyze an increased number of patients in order to obtain a more accurate conclusion. There is no conflict of interest.

P164

ELASTOGRAPHY AND ELECTROMYOGRAPHY ASSESSMENT OF THE PELVIC FLOOR MUSCLE AFTER DEEP ELECTROMAGNETIC FIELD STIMULATION: A RANDOMIZED, PLACEBO-CONTROLLED STUDY

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Problem statement: The primary aim of the study is electromyographic evaluation of pelvic floor muscle (PFM) and elastographic assessment of pelvic floor structure after application of deep electromagnetic stimulation (DEMS) of pelvic floor in women with stress and mixed urinary incontinence (SUI and MUI) symptoms. Researchers assume that DEMS will affect the bioelectrical activity of PFM and elastic properties of evaluated structures. **Methods:** The study was conducted at the Clinic and the Department of Urology and Urologic Oncology, University Hospital in Wroclaw, Poland. The target group of the study involved postmenopausal women with symptoms of SUI and MUI. Participants were randomly assigned to one of two comparison groups (DEMS group and placebo group). The bioelectrical activity of PFM was recorded using surface electromyograph with vaginal electrodes. The evaluation of pelvic floor tissue elasticity was conducted with the use of Aixplorer® SuperSonic Imagine (ShearWave™ methods). Statistical analysis was performed using Statistica 12.5 (StatSoft, Inc., USA) under the license of Wroclaw Medical University. The project was funded by the National Science Centre (Poland, number 2016/21/D/NZ7/02168). **Results:** Twenty-one postmenopausal women with SUI and MUI took part in the study. After DEMS, an increase of the mean of functional activity of PFM (p<0.05) was observed. There were no statistically significant differences in the comparison of resting activity and the placebo group. In the elastographic assessment, a change in the elasticity of structures is observed, but not statistically significant. **Conclusion:** It seems that the DEMS may be part of the therapy of PFM dysfunction, but further research should be carried out to verify this conclusion

P165

REDUCING CARDIOVASCULAR RISKS WITH THE COMBINED ORAL CONTRACEPTIVE PILL: CAN WE IMPROVE OUR GENERAL PRACTICE SERVICES?

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Introduction: 80% of contraceptive care in the UK occurs in the general practice. The UK Medical Eligibility Criteria (UKMEC) provides guidelines for the safe prescription of the combined oral contraceptive pill (COCP). Following the death of a 21-year-old woman due to pulmonary embolism secondary to COCP use in 2016, general practitioners (GPs) must provide a comprehensive safety check and regular review of the pill at least every 6 months. Guidelines state that COCP risks outweigh the benefits (UKMEC3) with a BMI of ≥ 35 kg/m² and systolic BP 140–159 mmHg, whilst it is completely contraindicated (UKMEC4) with a systolic BP ≥ 160 mmHg. GPs often fail to check BMI or BP during the regular review and safer contraceptive options may not be discussed. **Aims:** 1) To assess how many women currently on the COCP at Stovell House Surgery have had their BMI checked in the last 12 months and their BP checked in the last 6 months. 2) To provide ideas for any improvement. **Methods:** Using the Educational Management Information System (EMIS) at Vanbrugh Group Practice, we performed a retrospective analysis of the COCP review checks to identify whether BMI and BP checks had taken place. The data collection period was from 23rd July 2018 to 23rd July 2019. **Results:** Out of 155 women currently on the COCP, 82.58% of



women had their BMI checked in the last 12 months whilst 79.35% had their BP checked in last 6 months. A total of 70.32% had both their BMI and BP checked in the last 12 months. **Conclusion:** The main safety concerns for obese or hypertensive women using COCP are cardiovascular risks from exogenous oestrogen including VTE, acute MI and ischaemic stroke. To improve results towards 100%, an alert system could be put in place on EMIS for every consultation so that required checks are made. Additionally, a COCP-specific template that includes tick boxes could be used to ensure all questions are asked and measurements are recorded. Training sessions for GPs should be mandatory to ensure they know the importance of health checks in contraception reviews.

P166

MEASURING THE CEREBELLUM – A GROWTH CURVE IN A SPECIFIC POPULATION

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The cerebellum is derived from the dorsal portion of the mesencephalon, and is located in the posterior cranial fossa, beneath the occipital lobe and dorsal to the brainstem, delimiting part of the fourth ventricle. It's one of the first structures in the brain to differentiate, initiating in the fifth week, but one of the last to mature. The mass of the cerebellum will double after the 19th week of gestation and continues to grow after birth. The cerebellum can be identified by ultrasonography at the end of the first trimester, however, the diagnosis of abnormalities should be avoided before the 18th week because the vermis is not totally formed yet. Goldstein was the first in 1987 to evaluate its growth and create a nomogram on the measurement of its transverse diameter. This measurement is considered a good parameter for dating gestations in cases of fetal growth restriction, as it is one of the last organs affected by placental insufficiency, and in late pregnancy discovery. It is known that for the same gestational age, the transverse cerebellar diameter varies between different ethnic groups. Although most women in our center are Caucasian, our population is composed by various ethnic groups and no normal reference curve has been determined for this parameter in our country. The aim of our study is to determine reference values for the fetal transverse cerebellar diameter from 19 to 25 weeks of gestation in a sample of our population. A retrospective cross-sectional study was carried out between January 2017 and December 2018, with evaluation of pregnant women referred for second-trimester ultrasound between 19 and 25 weeks. Multiple pregnancies and fetus with malformations were excluded. Outliers were identified and excluded, percentiles were identified and a normal range curve for cerebellar diameter in our population was produced.

P167

INTEROPERATOR VARIABILITY IN FETAL ULTRASOUND MEASUREMENTS IN A PORTUGUESE PRENATAL DIAGNOSIS CENTER

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Ultrasound examination of the fetus is a vital tool necessary for the obstetric evaluation of fetal development and growth. Many clinical decisions depend upon an accurate and reproducible measurement of fetal biometry. The importance of ascertaining the reliability of sonographic measurements is necessary, not only to screen for anomalies, but also to improve the accuracy of gestational age prediction during pregnancy and monitoring fetal growth. In our hospital, sonographies of the same women often

involve different operators. Inaccurate measurements can lead to erroneous detection of fetal growth restriction and macrosomia, and thus to unnecessary intervention, maternal anxiety and iatrogenic perinatal morbidity. It may also lead to inadvertently overlooking growth-restricted fetuses. There are relatively few studies assessing the variability of ultrasound measurements in fetal biometry by different operators. Our goal was to assess interoperator variability of fetal biometry measurements in the second trimester (between 19 and 25 weeks of gestation). A total of 490 scans of singleton pregnancies between 19 and 25 weeks of gestation performed between January 2017 and December 2018 by 5 different sonographers were analyzed. The measures taken in account were biparietal diameter, head circumference, abdominal circumference and femur length. We elaborated and compared measurement curves from the different sonographers to understand if they were significantly different and if the interoperator variability should be considered when interpreting fetal growth rates. All parameters are being analyzed to create and compare measurement curves of each operator.

P168

INHERITED THROMBOPHILIA IN PREGNANT PATIENTS: RELATIONSHIP BETWEEN THROMBOPHILIA AND EARLY PREGNANCY LOSS

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Problem statement: Early pregnancy loss, also referred to as miscarriage or spontaneous abortion, is generally defined as a nonviable intrauterine pregnancy which occurs in the first trimester. Is the most common pregnancy complication and occur up to 12+6 weeks from the last menstrual period. Inherited maternal thrombophilia as a cause of early pregnancy loss is the cause of hypercoagulable state which leads to arterial and/or venous thrombosis at the site of implantation or in the placental blood vessels. **Methods:** A retrospective study was conducted in Bucharest Emergency University Hospital. Pregnant women were included in RO19.10 project "Improved healthcare for high-risk pregnancy, premature birth, and haematological diseases". Laboratory samples included protein C, protein S, antithrombin III and homocysteine. Genetic analysis collected during the study included mutations of factor V (G1691A, H1299R), gene MTHFR (C677T mutations; A1298C) and mutation of factor XIII (G103T, RS 5985). The study group included 100 randomly selected pregnant patients (4 weeks-12 weeks of pregnancy) for a period of 1 year between 2015 – 2016, with two or more consecutive miscarriages with the same partner in the first trimester of pregnancy.

Results: Among all inherited thrombophilias, protein S deficiency is most common among women with early pregnancy loss. Also inherited thrombophilia is more common in women with two or more losses and also late pregnancy loss. In our study group there was an increased risk of late pregnancy loss in FV Leiden mutation heterozygotes (5,6%), prothrombin mutation heterozygotes (2%) and protein S deficiency (15%). **Conclusion:** This study highlighted that inherited thrombophilia in the case of early pregnancy loss plays an important role, in which case FV Leiden mutation heterozygotes, prothrombin mutation heterozygotes and protein S deficiency most often involved. Preconceptional and prenatal counseling regarding modifiable etiologies and risk factors are the most important interventions for prevention of spontaneous abortion in women. The association between maternal inherited thrombophilia, recurrent spontaneous abortion and fetal loss is controversial. Latest evidences suggests that treatment with an anticoagulant can improve these outcomes. **Disclosure:** None of the authors have a conflict of interest. All authors have participated equally in developing this study. **Keywords:** Thrombophilia, Spontaneous Abortions, Heparin, Low-Molecular-Weight, Aspirin





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¹ In a clinical study conducted at North Florida OBYGN, Jacksonville, FL, USA & The Springs Medical Center, Louisville, KY, USA, 2017



LASER COURSE

THURSDAY, NOVEMBER 21, 2019



VAGINAL ERBIUM LASER FOR WOMEN'S HEALTH

15:00-18:00		HALL B
Short Course Description:	<p>Course participants will learn the basic principles of using lasers in a variety of non-surgical and surgical procedures within the fields of minimally invasive gynecology. The entire course is constituted of six topics covering the use of FotonaSmooth Erbium laser systems in indications of: Vaginal Relaxation Syndrome (or Vaginal laxity) (VRS), Genitourinary Syndrome of Menopause (GSM), Stress Urinary Incontinence (SUI), Pelvic Organ Prolapses (POP), Lichen Sclerosus, Condyloma and Labioplasty. Upon completing the End-of-Course Test the participants will receive the Course Certificate.</p>	
15:00–15:05	Introduction by program coordinator Zdenko Vizintin, Slovenia	
15:05–15:25	Physical concepts of the application of the lasers in gynecology Zdenko Vizintin, Slovenia	
15:25–16:05	Laser use in Stress Urinary Incontinence and Pelvic Organ Prolapses Urška Bizjak-Ogrinc, Slovenia	
16:05-16:25	Laser use for treatment of Vaginal Laxity Ivan Fistonc, Croatia	
16:25–16:45	Laser use in Genitourinary Syndrome of Menopause and vaginal laxity Marco Gambacciani, Italy	
16:45–17:25	Laser treatment of Lichen Sclerosus et Atrophicus, Condyloma and Labioplasty Sabina Sencar, Slovenia	
17:25–17:45	Safety and clinical evidence of non-ablative ErYAG Zdenko Vizintin, Slovenia	
17:45–18:00	End-of-Course Test	



INDUSTRY SUPPORTED SESSION THURSDAY, NOVEMBER 21, 2019



SHINING LIGHT ON LUTEAL PHASE SUPPORT

16:15-16:45		HALL A
Capsule	Luteal phase support in ART is necessary and in search for the optimal protocol, recent evidence has emerged with possible implications for patient convenience	
Chairpersons	Zion Ben Rafael , <i>Israel</i> Bart Fauser , <i>Netherlands</i>	
16:15-16:45	Luteal phase support: Time for a clinical paradigm shift Herman Tournaye , <i>Belgium</i>	

FRIDAY, NOVEMBER 22, 2019



CANDELA SYMPOSIUM

10:20-11:50		HALL C
Capsule	Leading physicians share experiences with the CO2RE® Intima system in gynecology, state of the art and future challenges	
Chairperson	Santiago Palacios , <i>Spain</i>	
10:20-10:40	Use of laser in vulvo vaginal pathology Santiago Palacios , <i>Spain</i>	
10:40-11:00	Vaginal wall relaxation Abdulhassib Raslan , <i>France</i>	
11:00-11:20	Cosmetic gynecology vs regenerative gynecology Santiago Palacios , <i>Spain</i>	
11:20-11:40	Stress urinary incontinence: Personal research Abdulhassib Raslan , <i>France</i>	
11:40-11:50	Discussion	



INDUSTRY SUPPORTED SESSION

FRIDAY, NOVEMBER 22, 2019



FROM CONCEPTION TO BIRTH: HEALTHY BABIES AND HEALTHY MOTHERS FOLLOWING ART

10:20-11:50		HALL D
Capsule	Focusing on the specific aspects of ART pregnancies that impact on obstetrical care	
Chairperson	Gian Carlo di Renzo , <i>Italy</i>	
	Reproductive medicine Scott Nelson , <i>UK</i> Michel De Vos , <i>Belgium</i>	
	Maternal-fetal medicine Liona Poon , <i>Hong Kong</i> Yariv Yogev , <i>Israel</i>	

FRIDAY, NOVEMBER 22, 2019



GEDEON RICHTER

FIBROIDS: MEDICAL, SURGICAL, OR “NO TOUCH TECHNIQUE” TO TREAT SMALL FIBROIDS BEFORE IVF

12:10-13:40		HALL A
Capsule	The association of fibroids and infertility is well established. However, the issue of if, when and how to treat needs clarification. Does medical option change the current paradigm?	
Chairpersons	Jacques Donnez , <i>Belgium</i> Olivier Donnez , <i>Belgium</i> Eric Sedbon , <i>France</i>	
12:10-12:30	Surgical or medical treatment before IVF? Jasper Verguts , <i>Belgium</i>	
12:30-12:55	No treatment before IVF is needed for intramural smaller than 3-cm fibroids Roberto Marci , <i>Switzerland</i>	
12:55-13:15	Fibroids and UPA: How to explain the good and bad responders Marie Madeleine Dolmans , <i>Belgium</i>	
13:15-13:40	Leiomyoma or leiomyosarcoma? How can we tell? Herve Fernandez , <i>France</i>	



INDUSTRY SUPPORTED SESSION

SATURDAY, NOVEMBER 23, 2019



LATEST INNOVATIONS IN PREIMPLANTATION GENETICS IN COLLABORATION WITH REPROCARE GENETICS SCANDINAVIA

10:20-11:50		HALL A
Capsule	Gene editing of germline cells was recently used in clinical settings to manipulate human embryos, resulting in the birth of twins which will carry the new genes to future generations. Editing of somatic cells is not less controversial due to technical imperfection, unproven safety, cost that limits access to wealthy people only, and the possibility to treat a trait not important to general health	
Chairpersons	Attila Vereczkey , <i>Hungary</i> Eero Varila , <i>Finland</i> Simon Fishel , <i>UK</i>	
10:20-10:45	The brave new world of ART: Genome editing, third-parent conceptions and transgenerational implications Gerald Schatten , <i>USA</i>	
10:45-11:10	Preimplantation gene editing Dieter Egli , <i>Switzerland</i>	
11:10-11:30	gSEQ for PGT-A (Preimplantation genetic testing for aneuploidies) Noora Sirkkanen , <i>Finland</i>	
11:30-11:50	Mosaicism is a gimmick Nathan Treff , <i>USA</i>	



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Besins Healthcare is a privately held, global pharmaceutical company headquarter in Monaco. We are a world leader in novel therapies for gynecology and andrology. We have discovered ground-breaking technologies to improve patient well-being throughout our history. We developed several hormone therapies over the years including bioavailable natural progesterone by different routes of administration for pregnant women from conception until delivery and a natural testosterone transdermal gel for testosterone deficiency syndrome. We continue to be a leader in Estradiol Replacement Therapy with the first transdermal gel marketed in Europe. Our products are trusted and prescribed by healthcare professionals in more than 100 countries throughout the world.



www.biogaia.com

BioGaia is a Swedish healthcare company and a world leader in probiotics with 30 years' experience of developing, marketing and selling probiotic products. Our products are recommended by pediatricians and other healthcare professionals in more than 100 countries.

All BioGaia's products contain *Lactobacillus reuteri*, one of few bacteria that has co-evolved with humans. To date *L. reuteri* has been tested in more than 200 clinical trials and proven effective and safe in children and adults. The effects have been proven in FGIDs, such as colic and constipation in children as well as in oral health for pregnant women. Moreover, *L. reuteri* has shown to modulate the early microbiota development in babies born by C-section.



www.candelamedical.com

Established in 1970, **Candela** is a leading US-based global medical aesthetic device company with headquarters in Wayland, Massachusetts. The company's technologies enable physicians to provide advanced energy-based solutions for a broad range of medical-aesthetic applications including benign vascular and pigmented lesions, scars, hair removal, facial resurfacing, wrinkle reduction, women's health treatments, tattoo removal, acne, leg veins, cellulite, and body shaping.





www.ccd-lab.com/en/

For more than fifty years, CCD, Laboratoire de la Femme^{®*}, has been producing innovations for women's health, in France and abroad: Contraception, Assisted Reproductive Technology, Maternity, Menopause.

CCD – Laboratoire de la Femme[®] is reaffirming its ongoing commitment to offer you better products and services: Most of our products are manufactured in France, at our plant in Neuilly-en-Thelle (Oise, FRANCE). Our R&D team develops frenchmade products with the required expertise in all aspects of manufacturing and good practices.

Our daily mission: to provide care to women and accompany them through each phase of their lives.



www.coastscience.com

Coast Science[®], a leader in physician approved, natural vitamin & antioxidant supplements since 2001. Our scientifically optimized Fertile One[®] formulas are the first choice of Fertility Specialists & Gynecologists around the world to increase fertility & pregnancy success. We make high quality products, including Fertile One[®] PC 600 with over 20 key ingredients to optimize egg quality & Fertile One[®] PCOS 600 reducing PCOS symptoms while improving egg quality. Our Preconception formulas for women have 600mg of Coenzyme Q10 and 999mcg of Quatrefolic[®]. New she-ology[™] hormonal support supplements also include herbs to naturally ease symptoms of PMS, Peri-Menopause or Menopause.



www.medical.escoglobal.com

Esco Medical is the IVF business unit of Esco Group, a global life science tools provider. Esco Medical delivers innovative solutions for fertility clinics and laboratories. Esco Medical is the leading manufacturer and innovator of high-quality equipment such as long-term embryo incubators, ART workstations, anti-vibration table, time-lapse incubator and is continuously developing advanced technologies to meet the increasing demand of the IVF industry. Most of our products are designed in Denmark and manufactured in the EU. The primary focus of this division is to increase pregnancy success rates and patient satisfaction.



www.euroimmun.com

EUROIMMUN is an international provider of medical laboratory products with a growing portfolio for molecular genetic diagnostics. The company's EUROArray platform includes microarrays for multiplex detection of human papillomaviruses, sexually transmitted infections and dermatophytes. The EUROArray HPV in particular allows sensitive detection of all thirty relevant high- and low-risk HPV in one reaction. Real-time PCR tests for Zika virus and HSV-1/2 are also available. Microarrays for genetic risk determination in different diseases complete the portfolio. All tests include fully automated data evaluation and documentation. EUROIMMUN's molecular genetic diagnostics range complements its products for autoimmune, infection and allergy diagnostics.



www.ferring.com

Ferring Pharmaceuticals is a research-driven, specialty biopharmaceutical group committed to helping people around the world build families and live better lives. Headquartered in Saint-Prex, Switzerland, Ferring is a leader in reproductive medicine and women's health, and in specialty areas within gastroenterology and urology. Ferring has been developing treatments for mothers and babies for over 50 years and has a portfolio covering treatments from conception to birth. Founded in 1950, privately-owned Ferring now employs approximately 6,500 people worldwide, has its own operating subsidiaries in nearly 60 countries and markets its products in 110 countries.



www.fotona.com

With more than 50 years of experience, **Fotona** is a world-leading medical laser manufacturer recognized for its innovative, award-winning laser systems for applications in gynecology, surgery, aesthetics & dermatology and dentistry. Fotona's combined **Er:YAG** and **Nd:YAG** laser systems are proven to be less invasive and highly effective for clinical and aesthetic gynecology treatments. We are proud to be the first manufacturer to introduce **SMOOTH**[®] mode technology for a range of non-invasive laser vaginal treatments.

Our global distribution network spans across more than 60 countries, ensuring comprehensive support and service for Fotona laser users, including clinical training, workshops and hands-on demonstrations.



GEDEON RICHTER

www.richter.hu

Gedeon Richter Plc., headquartered in Budapest/Hungary, is a major pharmaceutical company in Central Eastern Europe, with an expanding direct presence in Western Europe, in China and in Latin America. Having reached a market capitalisation of EUR 4.1 billion (USD 4.9 billion) by the end of 2017, Richter's consolidated sales were approximately EUR 1.4 billion (USD 1.6 billion) during the same year. The product portfolio of Richter covers many important therapeutic areas, including Women's Healthcare, Central Nervous System, and Cardiovascular areas. Having the largest R&D unit in Central Eastern Europe, Richter's original research activity focuses on CNS disorders. With its widely acknowledged steroid chemistry expertise, Richter is a significant player in the Women's healthcare field worldwide. Richter is also active in biosimilar product development.



www.fertilovit.com

Austrian-based **Gonadosan Distribution GmbH** is dedicated to the development and ongoing research of state-of-the-art nutraceuticals meeting the specific nutritional needs of men and women planning for pregnancy. The Fertilovit[®] range of supplements is based on the latest scientific data, tested in cooperation with big European ART centers and has been proven to support fertility treatment effectively. A variety of patent-protected preparations offer highly specific solutions for different male and female fertility patients, ranging from mature patients to patients with thyroid autoimmunity, endometriosis, PCOS, and idiopathic OAT.





www.guerbet.com

Guerbet is a pioneer with more than 90 years' experience in the field of contrast agents and a world leader in medical imaging. It offers a comprehensive range of pharmaceutical products, medical devices and services for diagnostic and interventional imaging, to improve the diagnosis and treatment of patients. Guerbet allocates 8% of its revenue to R&D and relies on over 200 employees in various work sites in France, Israel and the United States, making of the company a significant investor in research and innovation. Guerbet (GBT) is listed on Euronext Paris (segment B – mid caps) and generated €790 million in sales in 2018.



Caring Innovation

www.ibsagroup.com

IBSA is an international pharmaceutical company with headquarters in Lugano, Switzerland. **IBSA** has developed an entirely new purification process in order to obtain a full range of highly purified, human gonadotrophins (hFSH, hMG and hCG). This patented process ensures both a high level of purity and the full respect of the natural glycosylation of these molecules. Recently IBSA has marketed a novel ingenious system to deliver progesterone subcutaneously in an aqueous solution. IBSA has managed to guarantee the highest quality of its products over the years due to the advantages of having a complete in-house manufacturing process in company-owned plants and thanks to a global quality system. The company's other franchises include osteoarthritis, pain-management, dermatology and thyroid diseases.



www.karlstorz.com

KARL STORZ is a renowned manufacturer that is well established in all fields of endoscopy and can be considered as market leader in rigid endoscopy. The still family held company was founded in 1945 in Tuttlingen, Germany, and has grown to one with a worldwide presence and 7500 employees. KARL STORZ offers a range of both rigid and flexible endoscopes for a broad variety of applications. Today's product range also includes fully integrated concepts for the OR and servicing.



www.lgchem.com

As one of strongly sponsored entrepreneurs from LG group, **LG Chem** is becoming the leader of pharmaceutical industry, especially specialized in development of highly qualified infertility treatment products (Follitrope™, IVF-M™, IVF-M HP™, IVF-C™) over 20 overseas countries by contributing to the better life quality of many infertile couples in globe.





www.pantarheibio.com

Pantarhei Bioscience (PRB) and **Pantarhei Oncology (PRO)** focus on innovative drug development in Woman's Health (WH) and Endocrine Cancers. PRB has developed a product pipeline based on its ability to identify, confirm and patent protect novel targets and medical uses of existing drugs, hormones, other endogenous human biologicals and combinations thereof. Pantarhei adheres to the highest scientific standards for preclinical and clinical drug development. The current pipeline of Pantarhei includes (i) Androgen Restored Contraception (ARC), adding dehydroepiandrosterone (DHEA) to oral contraceptives, (ii) the fetal estrogen Estetrol (E4) for the (co)-treatment of breast and prostate cancer and (iii) the use of the Zona Pellucida 3 (ZP3) antigen and biomarker for immunotherapy of ZP3 expressing tumors such as ovarian and prostate cancer.



www.preischool.com

Permanent International and European School in Perinatal, Neonatal and Reproductive Medicine. Founded in Florence (Italy) in 2012, the School, inspired by the values of scientific culture, ethics and bioethics of life sciences, pursues the aim of promoting and enhancing the fundamental ideals of maternal infant medicine in its entire course: reproductive, periconceptual, maternal and child health periods. The School run courses of reproductive, perinatal and neonatal medicine and related disciplines, training programs, national and international conferences, congresses, debates, and any other event or action consistent with its objectives.



www.reprocaregenetics.com

Preimplantation Genetic Testing for Aneuploidy (PGT-A) has demonstrated clinical benefit in multiple randomized controlled trials. Contemporary methods of PGT-A involve next generation sequencing (NGS) with whole genome amplification (WGA). We have developed a new method of PGT-A that overcomes limitations of WGA based strategies. gSEQ not only evaluates chromosome copy number, including mosaicism, and segmental aneuploidy, but also provides genotype information through proprietary machine learning algorithms. The additional feature of genotyping data analyses improves PGT-A accuracy through allele-ratio assessment and allows for detection of contamination, triploidy, and relatedness, as well as independent confirmation of aneuploidy predictions. gSEQ provides increased sample processing throughput without compromising accuracy and at a cost significantly lower than WGA-based commercial PGT-A kits. ReproCare Genetics Scandinavia is now an exclusive provider of gSEQ based PGT-A clinical services in Europe.



www.wisepress.com

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Our daily mission: to provide care to women and accompany them through each phase of their lives.

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