TAOG 2024

The 63rd Annual Congress & The 10th International Symposium of Taiwan Association of Obstetrics and Gynecology

March 9-10, 2024
台北圓山大飯店
The Grand Hotel

The 63rd Annual Congress & The 10th International Symposium of Taiwan Association of Obstetrics and Gynecology

Program & Abstract

March 9-10 (Sat.-Sun.), 2024

The Grand Hotel, Taipei, Taiwan

Program HandBook_QR Code

Contents

Message from the President of TAOG

It is with great appreciation that having the 23rd member representatives, board directors and supervisors' support, Taiwan Association of Obstetrics and Gynecology (TAOG) has been established for 62 years. The declining birth rate crisis in Taiwan may cause concern and largely affects national society. Yet with the efforts done by previous leaders of TAOG, we are gratified that many outstanding students choose Ob-Gyns for future clinical work and research. We will enhance their training and practice courses, as well as promoting the development of realistic training models. Recently, there has been a situation where we have not been able to recruit enough, so we still need to continue our efforts. The goal is to help women who want to conceive and give birth achieve better outcomes, strive for better treatment, and encourage young doctors to join our ranks.

On October 7, 2023, representing the TAOG, we attended the International Congress of Obstetrics and Gynecology (FIGO) in Paris to contribute to international academic exchanges and friendships. Several members and prospective members from Taiwan present their research results. A presentation on Taiwan's subsidization of in vitro fertilization for infertile couples starting in July 2021 sparked lively discussions, and many representatives from other countries exchanged messages with us.

October 27, 2023 marked the member travel event of the TAOG. The destination was Yilan, and members and their families from all over Taiwan enthusiastically participated, demonstrating their commitment to the association.

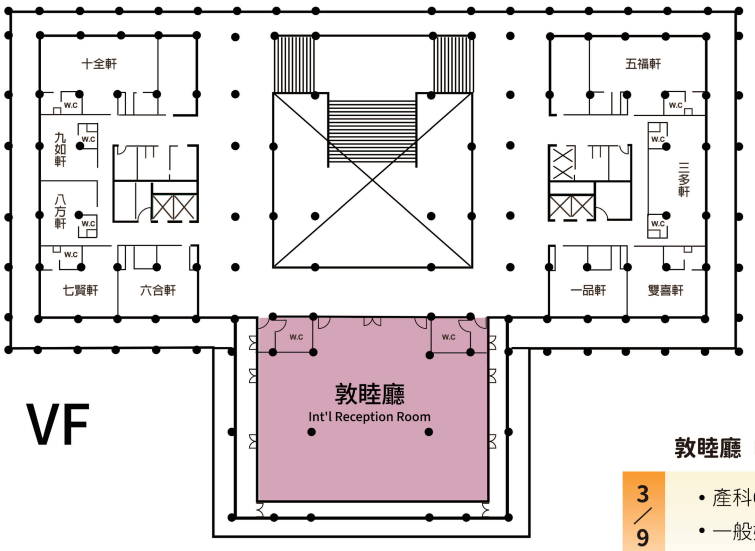
This year's continuing education was rich, covering topics such as simulated teaching in obstetrics, Da Vinci surgical procedures, menopausal care, enhancing sexual health, postpartum care courses, obstetric anesthesia and postoperative pain, influenza in high-risk pregnant women, COVID-19 vaccine injection education and training courses, prenatal care for pregnant women, and breast ultrasound training courses.

In January 2024, we expressed our concern for the earthquake in Japan. We appreciate the contributions from academicians, board members, member representatives, and all members who generously donated. The Japan Society of Obstetrics and Gynecology also expressed their gratitude and appreciation.

The 63rd annual meeting in 2024 will be held on March 9th and 10th at the Grand Hotel in Taipei. We invited scholars from FIGO, ACOG, AOFOG, Japan, Korea, and domestic experts. The J-K-T young doctor program is held by us this year, and we have arranged fruitful activities for them. We appreciate everyone's efforts, contributions, and participation in the conference, benefiting from excellent speeches and academic exchanges. We believe that it will further elevate Taiwan's academic and international standing.

Shee-Uan Chen, MD
President of TAOG

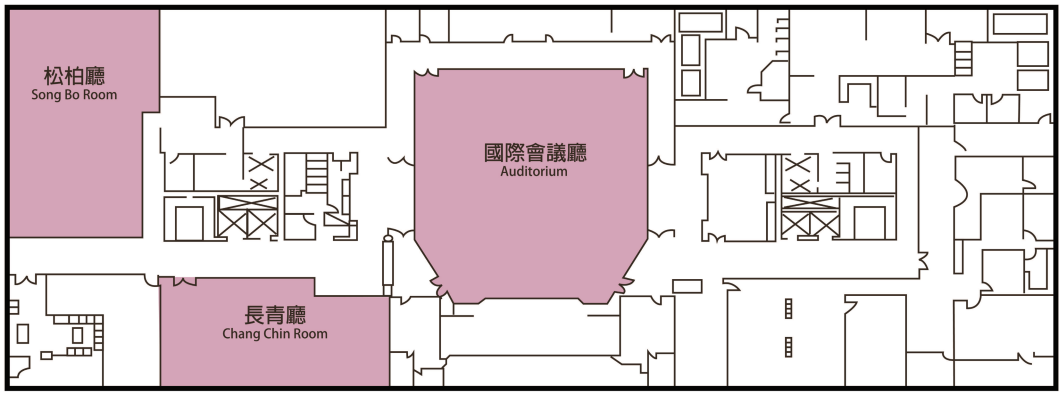
Floor Information of Grand Hotel



VF

敦睦廳 International Reception Room

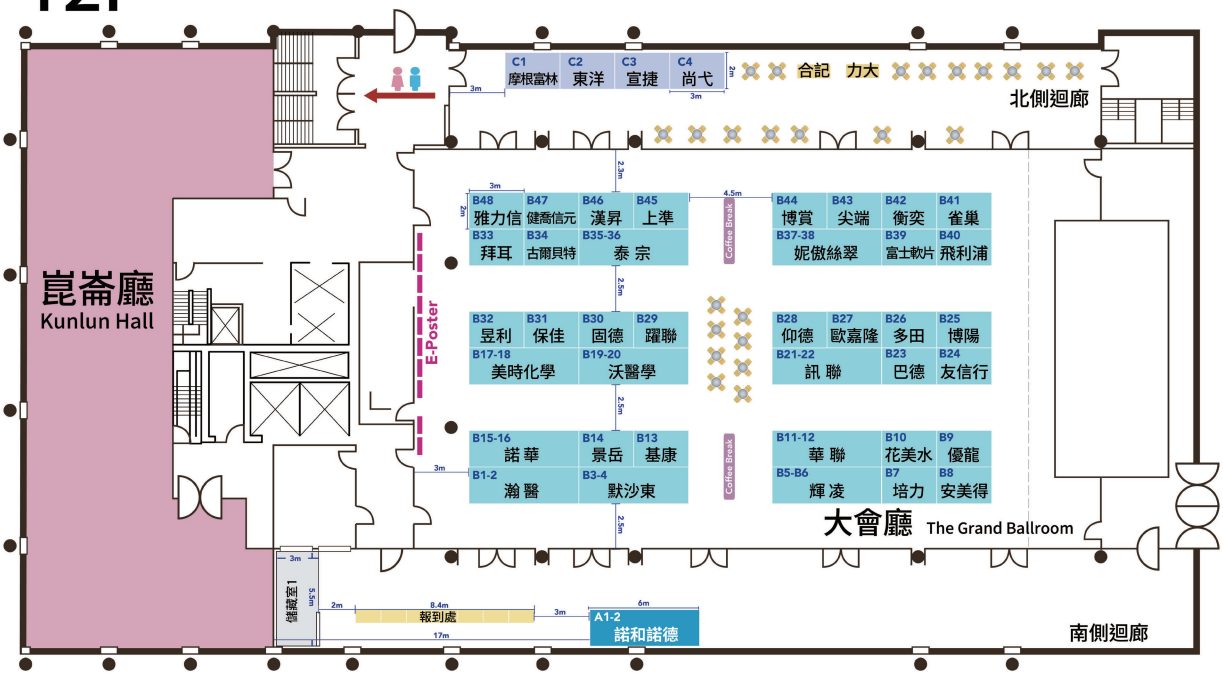
3/9	• 產科Oral + 內視鏡Oral + 婦泌Video • 一般婦科Oral/Video+更年期Oral • 一般婦科Symposium
3/10	• 更年期醫學Symposium • 生殖內分泌Oral • 會員代表大會



10F

	長青廳 Chang Chin Room	**松柏廳** Song Bo Room	**國際會議廳** Auditorium
3/9	• Young Doctors' Session • 午餐會報 • 婦癌Symposium	• 產科Oral • 午餐會報 • 產科Symposium	• 內視鏡Video+Oral • 內視鏡Symposium
3/10	• Young Doctors' Session • 午餐會報 • 住院醫師教育訓練	• 婦女泌尿Oral • 午餐會報 • 婦女泌尿Symposium	• Plenary Lecture • 醫療倫理法律

12F



崑崙廳 Kunlun Hall

3/9

- AOFOG Session
- Invited Speaker Lecture
- 午餐會報
- The 5th Japan-Korea-Taiwan Joint Conference

3/10

- 婦癌Video + Oral
- 午餐會報
- 生殖內分泌Symposium


TAOG
2024
2024.3.9~10

The 63rd Annual Congress

of Taiwan Association of Obstetrics and Gynecology 2024

Program

March 9, 2024 (Sat.)

AOFOG Session		
(12F) Kunlun Hall		
Moderator: Tsung-Hsien Su 蘇聰賢 (Fellow of TAOG), Kazunori Ochiai (HF of TAOG, Japan), Joo Hyun Nam (HF of TAOG, Korea)		
IS1	08:30-09:00	**Operationalize cervical cancer elimination in AOFOG** *Speaker: Pisake Lumbiganon (AOFOG, President, Thailand)*
IS2	09:00-09:30	**Heavy Menstrual Bleeding- Strategies to Best Cure** *Speaker: Rohana Haththotuwa (AOFOG, Secretary General, Sri Lanka)*
IS3	09:30-10:00	**Impact of Climate Change, Environmental Toxins and Pollution on the AOFOG region: What can OBGYNs do?** *Speaker: Krishnendu Gupta (AOFOG, Deputy Secretary General, India)*
	10:00-10:30	Coffee Break
Invited Speaker Lecture		
(12F) Kunlun Hall		
Moderator: Ming-Chao Huang 黃閔照 (Fellow of TAOG), Duk Soo Bae (HF of TAOG, Korea), Toshiharu Kamura (HF of TAOG, Japan)		
IS4	10:30-11:00	**A practical approach to paracervical tissue dissection in nerve-sparing radical hysterectomy** *Speaker: Noriaki Sakuragi (HF of TAOG, Japan)*
IS5	11:00-11:30	**Comprehensive approach to have healthy baby in women with adenomyosis** *Speaker: Yutaka Osuga (JSOG, Vice Chairperson of the Executive Board Congress, Japan)*
IS6	11:30-12:00	**Mentoring Our Next Generation** *Speaker: Thomas M. Gellhaus (ACOG, Past President, USA)*
	12:00-13:20	Lunch Time

Program / Day 1

March 9, 2024 (Sat.)

The 5th J-K-T Joint Conference		
(12F) Kunlun Hall		
	13:35-13:40	**Opening Remarks** *Shee-Uan Chen (President of TAOG)*
I. Maternal Fetal Medicine **Moderator: Te-Fu Chan 詹德富 (President of TSOP, Taiwan), Yong Won Park (HF of TAOG, Korea), Hisashi Masuyama (JSOG, Chairperson of Education Committee, Japan)**		
J1	13:40-14:00	**Artificial intelligence in maternal-fetal medicine** *Speaker: Seung Mi Lee (Seoul National University, Korea)*
J2	14:00-14:20	**Early-Onset PreEclampsia Is Associated with Altered DNA Methylation in the first trimester villi** *Speaker: Akihiro Kawashima (Showa University, Japan)*
J3	14:20-14:40	**The aftermath of emergency cervical cerclage** *Speaker: Chin-Ru Ker 葛菁如 (Kaohsiung Medical University Chung-Ho Memorial Hospital, Taiwan)*
II. Reproductive Endocrinology & Infertility **Moderator: Horng-Der Tsai 蔡鴻德 (Fellow of TAOG), Jang-Heub Kim (HF of TAOG, Korea), Tomoyuki Fujii (HF of TAOG, Japan)**		
J4	14:40-15:00	**Stem cell-based therapy for infertility** *Speaker: Satoshi Hosoya (The Jikei University School of Medicine, Japan)*
J5	15:00-15:20	**Insights into the pathophysiology and treatment of PCOS** *Speaker: Chu-Chun Huang 黃楚珺 (National Taiwan University Hospital, Taiwan)*
J6	15:20-15:40	**Investigation for a relationship between vasomotor symptoms and hypothalamus volumetry using magnetic resonance imaging** *Speaker: Hye Gyeong Jeong (Korea University Anam Hospital, Korea)*
	15:40-16:00	**Coffee Break**
III. Gynecological Oncology **Moderator: Su-Cheng Huang 黃思誠 (Fellow of TAOG), Shingo Fujii (HF of TAOG, Japan), Hee-Sug Ryu (President of KSOG, Korea)**		
J7	16:00-16:20	**Uncovering the molecular landscape of ovarian clear cell carcinoma: towards precision oncology** *Speaker: Angel Chao 趙安琪 (Chang Gung Memorial Hospital, Taiwan)*
J8	16:20-16:40	**Novel therapeutic strategy targeting cancer heterogeneity and metabolism based on a cancer stem cell model** *Speaker: Tatsuya Ishiguro (Niigata University Medical and Dental Hospital, Japan)*
J9	16:40-17:00	**Robotic surgery for gynecologic cancers: staying ahead of the curve** *Speaker: Jiheum Paek (Ajou University, Korea)*
	18:00~21:00	Banquet (VF) Int'l Reception Hall

March 10, 2024 (Sun.)

Plenary Lecture

(10F) Auditorium

	08:25-08:30	**Opening Remarks** *Shee-Uan Chen (President of TAOG)*
Moderator: Jian-Pei Huang 黃建霈 (TAOG, Secretary General, Taiwan), Joong Shin Park (KSOG, Immediate Past Chairman of the Board, Korea)		
P1	08:30-09:00	**Magnesium Deficiency during Pregnancy** *Speaker: Ming-Song Tsai 蔡明松(TAOG, Chairman of Supervisor, Taiwan)*
Moderator: Yu-Shih Yang 楊友仕 (Fellow of TAOG), Young Tae Kim (KSOG, Chairman of the Board, Korea)		
P2	09:00-09:30	**Premature ovarian insufficiency. Can we identify this beforehand?** *Speaker: Seung Joo Chon (Gil Hospital, Korea)*
Moderator: Maw-Sheng Lee 李茂盛 (Fellow of TAOG), Tomoyuki Fujii (HF of TAOG, Japan)		
P3	09:30-10:00	**The role of sex chromosomes in egg formation and the mechanism of age-related aging of the endometrium** *Speaker: Kiyoko Kato (JSOG,Chairperson of the Executive Board, Japan)*
	10:00-10:30	**Coffee Break**
Moderator: Hong-Nerng Ho 何弘能 (Fellow of TAOG), Joo Hyun Nam (HF of TAOG, Korea)		
P4	10:30-11:00	**Paradigm shifts in Obstetric Practice** *Speaker: Ravi Chandran (FIGO, Honorary Secretary; AOFOG Past President, Malaysia)*
Moderator: Ching-Hung Hsieh 謝卿宏 (Fellow of TAOG), Yuji Hiramatsu (HF of TAOG, Japan)		
P5	11:00-11:30	**Preconception to Infancy: Why 1000 days is not enough !** *Speaker: Jeanne Conry (FIGO, Immediate Past President, USA)*
Moderator: Ming-Chao Huang 黃閔照 (Fellow of TAOG), Mitsutoshi Iwashita (HF of TAOG, Japan)		
P6	11:30-12:00	**Gynecologic Cancer Screening for the Generalist** *Speaker: Stella M. Dantas (ACOG, President Elect, USA)*

Program / Day 1

March 9, 2024 (Sat.)

The 5th J-K-T Young Doctors' Session (Ⅰ)		
(10F) Chang Chin Room		
Moderator: Chie-Pein Chen 陳治平 (Deputy superintendent of MMH, Taiwan), Young-Han Kim (KSOG, Secretary General, Korea), Hisashi Masuyama (JSOG, Chairperson of Education Committee, Japan)		
Y1	08:30-08:40	**A nationwide survey and feasibility study of virtual telehealth visits for perinatal checkups during the COVID-19 pandemic in Japan** *Speaker: Mariya Kobayashi (Osaka University Hospital, Japan)*
Y2	08:40-08:50	**Clinical outcomes of nirmatrelvir-ritonavir use in pregnant women during the Omicron wave of the coronavirus disease 2019 pandemic** *Speaker: Chih-Wei Lin 林智偉 (National Cheng Kung University Hospital, Taiwan)*
Y3	08:50-09:00	**15 years' experiences of External Cephalic Version at out patient clinic** *Speaker: Da Hyun Wang (Chung-Ang University, Korea)*
Y4	09:00-09:10	**Differential changes of placental soluble epoxide hydrolase (sEH) between normal pregnancies and pregnancies complicated by pre-gestational and gestational diabetes mellitus (GDM)** *Speaker: Min Feng 馮敏 (Taipei Chang Gung Memorial Hospital, Taiwan)*
Y5	09:10-09:20	**Predictors of diabetic ketoacidosis and associated perinatal mortality in pregnant women with pregestational diabetes mellitus** *Speaker: Yu-Hao Fan 范祐豪 (MacKay Memorial Hospital, Taiwan)*
Y6	09:20-09:30	**Amniotic fluid stem cell-derived exosomes could show the therapeutic potential in preeclampsia mouse model** *Speaker: Ping-Hsuan Wu 吳品萱(Keelung Chang Gung Memorial Hospital, Taiwan)*
Y7	09:30-09:40	**Use of the Ex-Vivo uterine Environment (EVE) system for Surgery in the Fetal Sheep** *Speaker: Yuya Saito (Tohoku University Hospital, Japan)*
Y8	09:40-09:50	**The effective method of detecting pathogenic variants for exome negative cases in Cornelia de Lange Syndrome** *Speaker: Rie Seyama (Juntendo University Graduate School of Medicine, Japan)*
Y9	09:50-10:00	**The impact of maternal hepatitis C virus infection on the congenital malformations** *Speaker: Eun Jin Choi (Seoul National University, Korea)*
Y10	10:00-10:10	**Carrier screening for present disease prevalence and recessive genetic disorder in Taiwanese population** *Speaker: Li-Shan Chen 陳立珊 (Shin Kong Wu Ho Su Memorial Hospital, Taiwan)*

March 9, 2024 (Sat.)

The 5th J-K-T Young Doctors' Session (Ⅱ)

(10F) Chang Chin Room

Moderator: Wei-Chun Chang 張維君 (Vice President of TAOG, Taiwan), Takeshi Maruo (HF of TAOG, Japan), Young-Tak Kim (HF of TAOG, Korea)

Y11	10:20-10:30	**The role of uterine EZH2-PRC2-H3K27me3 axis in embryo implantation** *Speaker: Yamato Fukui (The University of Tokyo, Japan)*
Y12	10:30-10:40	**To assessment of chronic endometritis in infertile women with prior implantation failure** *Speaker: Caroline Lim 林嘉玲 (Changhua Christian Hospital, Taiwan)*
Y13	10:40-10:50	**The Mid Luteal Progesterone Level and Ratio of Progesterone and Estradiol is Predictive of Pregnancy Outcome in Frozen Embryo Transfer Cycles** *Speaker: Isabel Hsu 許嘉樺 (National Taiwan University Hospital, Taiwan)*
Y14	10:50-11:00	**Diminished ovarian reserve does not impact oocyte and embryo performance in women ≤40 years old** *Speaker: Ming-Ju Wang 王敏如 (MacKay Memorial Hospital, Taiwan)*
Y15	11:00-11:10	**The early evolution of gut microbiome in infants born after in vitro fertilization and its association with concurrent oral microbiome** *Speaker: Chi-Ting Lai 賴祈廷 (National Taiwan University Hospital, Taiwan)*
Y16	11:10-11:20	**Catheter-Directed Sclerotherapy for Endometrioma; studies over the years and future prospectives** *Speaker: Jaekyung Lee (Yonsei University, Korea)*
Y17	11:20-11:30	**Advantages of vNOTES (vaginal Natural Orifice Transluminal Endoscopic Surgery) gynecologic procedure using da Vinci SP** *Speaker: Gyul Jung (The Catholic University of Korea, Korea)*
Y18	11:30-11:40	**Spatial Transcriptomics for Investigating Immune Microenvironment Dynamics in Cervical Cancer** *Speaker: Yeong Eun Choi (Kyungpook National University, Korea)*
Y19	11:40-11:50	**A Retrospective Analysis of the Efficacy of Bevacizumab Maintenance on the Histopathological Mesenchymal Subtype of High-grade Serous Ovarian Carcinoma** *Speaker: Kentaro Ishida (Japanese Red Cross Otsu Hospital, Japan)*
Y20	11:50-12:00	**Outcomes of "sandwich" chemoradiotherapy compared with chemotherapy alone for the adjuvant treatment of FIGO stage III endometrial cancer** *Speaker: Shao-Jing Wang 王韶靖 (Taichung Veterans General Hospital, Taiwan)*

Program / Day 2

March 10, 2024 (Sun.)

The 5th J-K-T Young Doctors' Session (Ⅲ)

(10F) Chang Chin Room

Moderator: Dah-Ching Ding 丁大清 (Hualien Tzu Chi Hospital, Taiwan), Wen-Chu Huang 黃文助 (Taipei MacKay Memorial Hospital , Taiwan)

Y21	08:30-08:40	**Relationship between Q-Tip Test and Urethral Hypermobility on Perineal Ultrasound** *Speaker: I-Chieh Sung 宋怡潔 (Kaohsiung Medical University Hospital)*
Y22	08:40-08:50	**Management with bladder oversensitivity with platelet-rich-plasma(PRP) during pelvic reconstruction** *Speaker: Yi-Ting Chen 陳怡婷 (National Taiwan University Hospital)*
Y23	08:50-09:00	**Skin sympathetic nerve activity as a potential biomarker for overactive bladder** *Speaker: Tzu-Ting Chen 陳姿廷 (Kaohsiung Medical University Hospital)*
Y24	09:00-09:10	**Effect of High-Intensity Focused Electromagnetic (HIFEM) technology for the treatment of Female Stress Urinary Incontinence** *Speaker: Chieh-Yu Chang 張介禹 (Kaohsiung Medical University Hospital)*
Y25	09:10-09:20	**Comparison of Female Sexual Function following the TVT-O Sling System versus the Altis Single-Incision Sling System** *Speaker: Yao-Yu Yang 楊曜瑜 (Kaohsiung Medical University Hospital)*
Y26	09:20-09:30	**The Relationship between Vaginal Microbiota and Cercival Carcinogenesis Process** *Speaker: Yu-Jen Lai 賴昱蓁 (MacKay Memorial Hospital)*
Y27	09:30-09:40	**Distribution pattern of human papilloma virus (HPV) genotyping between normal and abnormal cervical cytology and its carcinogenic risk-a single institution experience** *Speaker: Yi-Cih Ma 馬翊慈 (Tung's Taichung MetroHarbor Hospital)*
Y28	09:40-09:50	**Association of Body Weight and Outcomes in Patients with Endometrial Cancer: A Single-Center Analysis** *Speaker: Yun-Ting Gao 高昀廷 China Medical University Hospital)*
Y29	09:50-10:00	**Minimally invasive surgery in early stage endometrial cancer in Taiwan** *Speaker: Chun-Ting Fan 范鈞婷 (Taichung Veterans General Hospital)*
Y30	10:00-10:10	**The physical, mechanical and biological properties of absorbable scaffold harvested with human amniotic fluid stem cells on rate model: An innovation for pelvic reconstruction surgery** *Speaker: Chien-Chien Yu 游千千 (Linkou Chang Gung Memorial Hospital)*

March 10, 2024 (Sun.)

The 5th J-K-T Young Doctors' Session (IV)

(10F) Chang Chin Room

Moderator: Kuang-Han Chao 趙光漢 (National Taiwan University Hospital, Taiwan), Ching-Ju Shen 沈靜茹(Kaohsiung Medical University Chung-Ho Memorial Hospital, Taiwan)

Y31	10:20-10:30	**Specialized technique of aggressive sperm immobilization improves reproductive outcomes in patients with male infertility and ICSI fertilization failure** *Speaker: Ching-Wen Chou 周靜汶 (National Taiwan University Hospital)*
Y32	10:30-10:40	**Impact of adenomyosis and endometriosis on IVF/ICSI pregnancy outcome in patients undergoing gonadotropin-releasing hormone agonist treatment and frozen embryo transfer** *Speaker: Yu Wang 王瑀 (Taichung Veterans General Hospital)*
Y33	10:40-10:50	**Administration of oxytocin receptor antagonist during frozen embryo transfer might improve live birth rates in women with recurrent implantation failure, adenomyosis and myoma** *Speaker: Po-Wen Lin 林柏文 (Kaohsiung Veterans General Hospital)*
Y34	10:50-11:00	**Changes in cervical elastography, cervical length and endocervical canal width after cerclage for cervical insufficiency: an observational ultrasound study** *Speaker: Meng-Hsuen Hsieh 謝孟軒 (MacKay Memorial Hospital)*
Y35	11:00-11:10	**The timing of Prostin E2 intervention in poor response of Propess use in induction of labor** *Speaker: Ning-Shiuan Ting 停寧萱 (Hualien Tzu Chi Hospital)*
Y36	11:10-11:20	**Safety Assessment and Side Effects of HIFU with Sonovue in Myoma Patients: A Prospective Randomized Trial** *Speaker: Yu-Hsuan Lin 林瑜萱 (Chung Shan Medical University Hospital,)*
Y37	11:20-11:30	**Comparison of Clinical Outcomes of Switching from Monopolar to Bipolar Hysteroscopic Myomectomy** *Speaker: Chia-Han Chung 鍾佳翰 (Far Eastern Memorial Hospital)*
Y38	11:30-11:40	**Comparing Clinical Outcomes of Laparoscopic Myomectomy with and without Uterine Elevator: A Retrospective Analysis** *Speaker: Chi-Han Chang 張季涵 (Hualien Tzu Chi Hospital)*
Y39	11:40-11:50	**Antimüllerian hormone is highly expressed in the eutopic and ectopic endometrium of patients with endometrioma** *Speaker: Ai-Lun Lee 李艾倫 (Keelung Chang Gung Memorial Hospital)*
Y40	11:50-12:00	**Figure out the risk factors of Postpartum Depression (PPD)** *Speaker: Chia-Han Chung 鍾佳翰 (Chi Mei Medical Center)*

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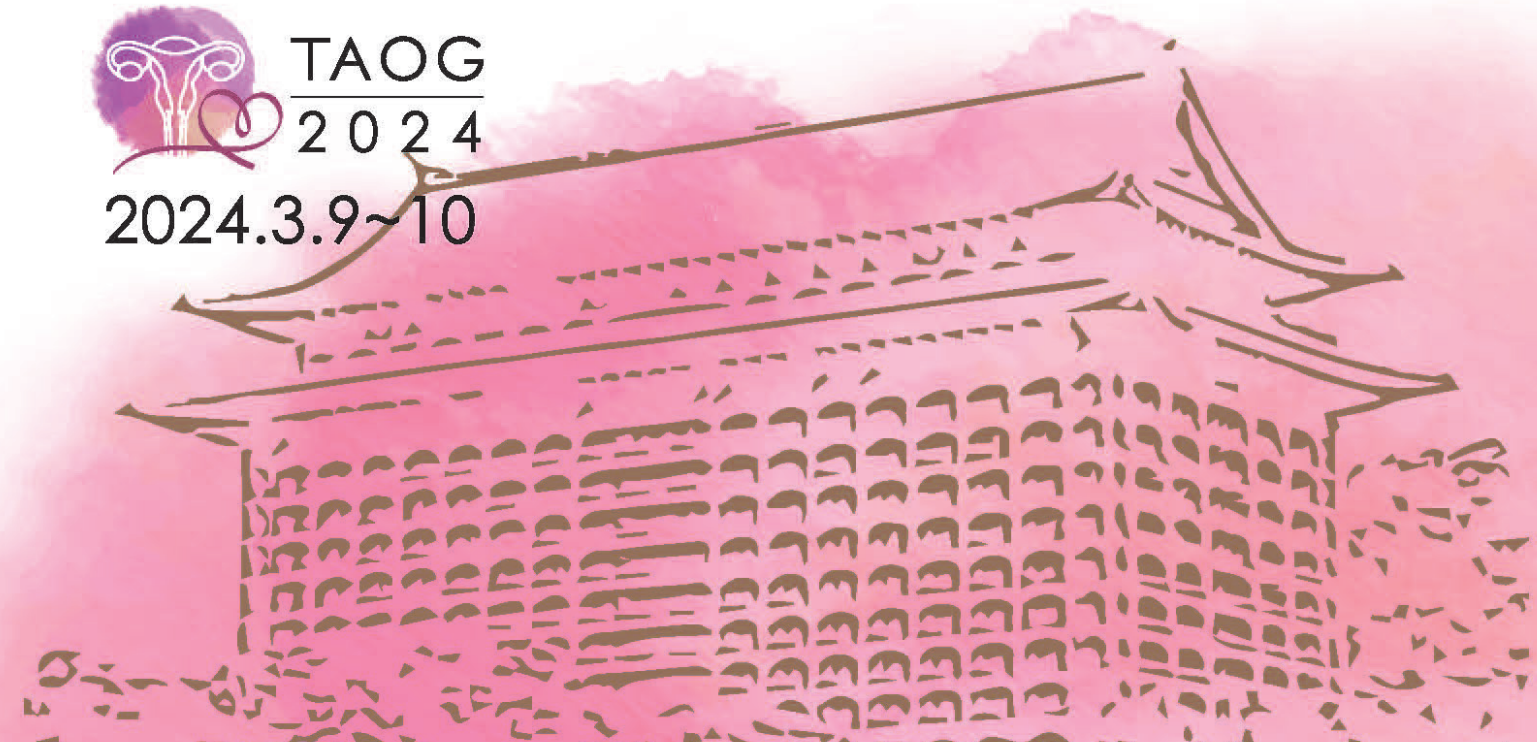

The 63rd Annual Congress

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Abstract

Plenary Lecture

【*P1-6*】

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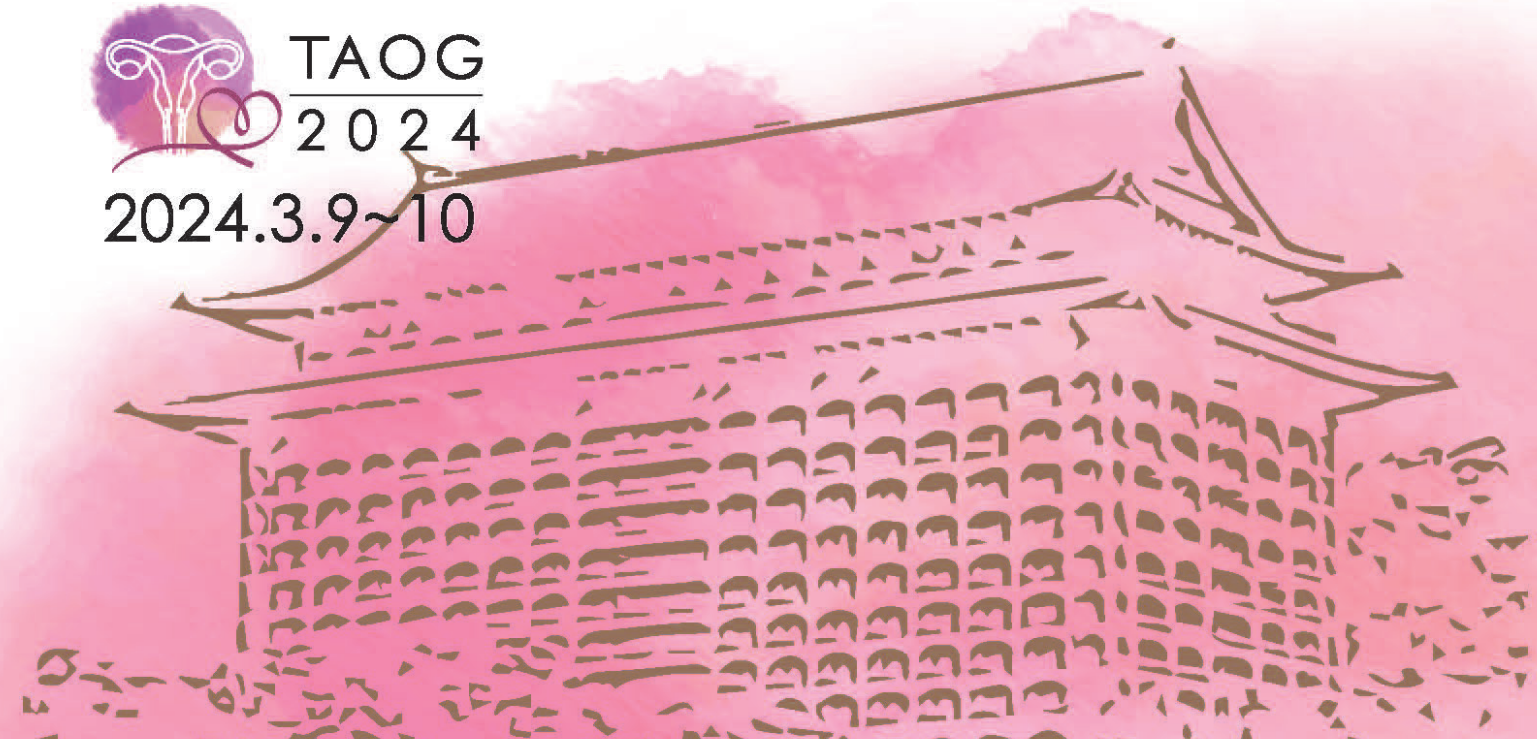
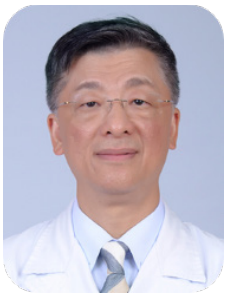


Ming-Song Tsai 蔡明松
(P1)



CURRICULUM VITAE

Ming-Song Tsai

Chief-supervisor, Taiwan Association of Obstetrics and Gynecology

Chief of Department of Obstetrics and Gynecology, Cathay General Hospital, Taipei City, Taiwan

Professor of School of Medicine, Fu Jen Catholic University, New Taipei City, Taiwan

Education

1978.9-1985.6 Medical School, China Medical College, Taichung City, Taiwan

Special research interests

Human amniotic fluid stem cells

Prenatal diagnosis and high-risk pregnancy

Magnesium transporter genes

Editorial Boards

Taiwanese Journal of Obstetrics and Gynecology

Journal of Medical Ultrasound

Obstetrics & Gynecology Science

Awards

Residential Kyorin Award by Taipei Medical Association

Medical Contribution Award (2020 T.C.M.A)

Magnesium Deficiency during Pregnancy

Ming-Song Tsai
Chair, Department OBS&GYN, Cathay General Hospital, Taipei
Professor, School of Medicine, Fu Jen Catholic University, Taipei City, Taiwan
Chief-supervisor, Taiwan Association of Obstetrics and Gynecology

Magnesium (Mg) is a widespread enzyme cofactor for the transmission of nerve impulses, muscular activity, energy production, and the synthesis of DNA and RNA. The formation of new tissues (maternal and fetal) during pregnancy requires higher Mg intakes than that of the normal non-pregnant woman of comparable age. The mean dietary magnesium intakes of pregnant women were likely much lower than that of recommended dietary allowances. Magnesium is involved in the regulation of numerous physiological functions during pregnancy for fetal development. Recent reports indicated that Mg deficiency might contribute towards placental insufficiency, and thus to the development of preeclampsia, preterm labor and intrauterine growth restriction. In addition, the Mg deficiency has also found be associated with insulin resistance during pregnancy and to the development of gestational diabetes. However, the possible role of Mg deficiency in the genesis of above adverse pregnancy outcomes has not been well known. Increasing evidence demonstrated that placentation defect, especially at the critical time period of late first trimester and/or early second trimester, would lead to develop subsequent pregnancy complicated with preeclampsia, preterm birth and fetal growth restriction. We found that the maternal magnesium levels were significantly decreased in a stepwise mode as the number of gestational weeks increased, with the mean magnesium levels of 2.22 mg/mL for the first trimester, 1.78 mg/mL for the second trimester and 1.63 mg/mL for the third trimester, respectively ($p<0.001$). Our data indicates that pregnant women in our cohort population are in a magnesium deficiency status since the second trimester. However, Mg^{2+} deficiency may still occur in pregnant women despite normal plasma concentration, because intracellular levels may decrease to maintain the extracellular concentration. Hence, the determination of the intracellular Mg^{2+} status by magnesium transporter gene expression level, instead of the extracellular maternal plasma Mg^{2+} concentration would be preferable for the magnesium deficiency detection. We have established a platform to determine Mg^{2+} status of five Mg transporter genes, SLC41A1, CNNM2, MagT1, TRPM6, and TRPM7. The gene expression level is determined by quantitative real-time PCR. Whether or not the magnesium transporter genes expression level in the first or early second trimester become an effective marker for the prediction of adverse obstetrical outcomes is an interesting field to be explored in the future.

Seung Joo Chon
(P2)

CURRICULUM VITAE

Seung Joo Chon
Associate professor, Gachon Medical School, Gil Hospital

Education

Time period	School	Major	Degree
2002.03.01-2008.02.22	Chonbuk National University	Medicine	Bachelor’ s degree
2010.03.01-2012.08.31	Gachon University	Obstetrics and Gynecology	Master’ s degree
2013.03.01-2015.02.26	Gachon University	Obstetrics and Gynecology	Degree of doctor

Profiles

Time period	Institution	Position
2008.03-2009.02	Gil Hospital, Gachon University	Intern
2009.03-2013.02	Gil Hospital, Gachon University	Resident
2013.03-2014.02	Severance Hospital, Yonsei University	Fellow
2014.03-2015.02	Severance Hospital, Yonsei University	Clinical Research Fellow
2015.03-2016.09	Gil Hospital, Gachon University	Clinical Assistant Professor
2016.10-2021.08	Gil Hospital, Gachon University	Assistant Professor
2021.09-	Gil Hospital, Gachon University	Associate Professor

Working Experiences

A member of
- American Society for Reproductive Medicine
- European Society of Human Reproduction and Embryology
- The Korean Society of Obstetrics and Gynecology
- The Korean Society of Menopause
- The Korean Society of Reproductive Endocrinology
- The Korean Society of Fertility Preservation
- The Korean Society for reproductive Medicine
- The Korean Society for Endometriosis
- The Korean Society of Gynecologic Endoscopy
- The Korean Society for Bone and Mineral Research

Premature ovarian insufficiency. Can we identify this beforehand?

Premature ovarian insufficiency (POI) is a pathological condition of ovarian reserve exhaustion before the age of 40 years, manifesting as amenorrhea or oligomenorrhea, hypoestrogenism, and elevated serum follicle-stimulating hormone concentrations (>25 mIU/mL). The prevalence of POI is approximately 1%, with some variation depending on ethnicity. Patients with POI have an increased risk of cardiovascular disease, osteoporosis, and cognitive impairment. They may also have elevated total and cancer-specific mortality rates. POI is a highly heterogeneous disease and originates from iatrogenic, karyotypic, and genetic factors. However, the etiology of POI remains unknown in approximately 90% of cases. The occurrence of POI in young women of reproductive potential is difficult to predict because clinical symptoms preceding the disease have not been reported. In patients with early ovarian insufficiency, attempts at pregnancy are made through re-transplantation and subsequent in vitro activation treatment after an ex vivo culture by harvesting whole ovaries or ovarian tissues/follicles. However, patients with POI whose ovarian function cannot be restored are unlikely to have successful results with these methods. Therefore, a diagnostic approach is sought to screen for the abnormal deterioration of ovarian function and advise patients with high risks of POI for family planning.

Turner syndrome is the most frequent hereditary cause of POI and is occasionally observed in women with POI, with symptoms typically appearing before menarche. In karyotyping, Turner syndrome is characterized by an entire or partial deletion of one X-chromosome, resulting in oocyte loss throughout childhood. Together with infertility, Turner syndrome is also associated with short height, delayed puberty, ovarian dysgenesis, hypergonadotropic hypogonadism, congenital cardiac abnormalities, endocrine disorders, osteoporosis, and immunological problems. Most women with Turner syndrome have primary or secondary hypergonadotropic hypogonadism, which necessitates hormone replacement therapy. Management of POI would benefit from a diagnostic marker that distinguishes POI induced by Turner syndrome from POI produced by other causes.

We analyzed the miRNA expression profile of POI patients with or without Turner syndrome, isolated urinary exosomes, selected putative miRNAs, and verified them in a larger patient cohort and a POI mouse model. Considering that early detection of POI is vital for preserving fertility, diagnostic methods for screening patients with POI can improve the management of the condition. Herein, we have also identified miRNA biomarkers that can be potentially used to develop rapid and straightforward diagnostic methods for POI screening. Here, we are to go thoroughly on POI and share my experience identifying urinary exosome miRNAs specified for POI, which might be used as potential diagnostic markers in patients with POI.

■ Plenary Lecture

Kiyoko Kato
(P3)

CURRICULUM VITAE

Kiyoko Kato, M.D., Ph.D

CURRENT POSITION

Department of Obstetrics and Gynecology, Graduate School of Medical Science,
Kyushu University, Japan

OTHER POSITIONS

2023~present	Chairperson of the Executive Board of Japan Society of Obstetrics and Gynecology (JSOG)
2015~2023	Editor-in Chief, Journal of Obstetrics and Gynaecology (JOGR)
2018~2023	Vice President of the Japan Society for Menopause and Women’ s Health (JMWH)

EDUCATION

1986/3	M.D.	graduate from Medical School of Medicine, Kyushu University (Japan)
1995/1	Ph.D.	Medical School of Medicine, Kyushu University (Japan)

POSITIONS

1986-1989	Medical Doctor of the department of Obstetrics and Gynecology, Kyushu University
1989-1992	Research fellow of La Jolla Cancer Research Foundation (USA)
1992-2009	Medical doctor in Medical Insitute of Bioregulation, Kyushu University
1992-1998	Assistant Professor
1998-2009	Associate Professor (lectuler)
2009-2012	Associate Professor, Department of Obstetrics and Gynecology, Faculty of Medicine, Juntendo University
2012-present	Professor, Department of Obstetrics and Gynecology, Graduate School of Medical Sciences, Kyushu University (Japan)

RESEARCH TOPICS

Gynecologic Oncology
Cancer stem cell
Signal transduction via Ras-Estrogen pathway
Molecular cancer biology

The role of sex chromosomes in egg formation and the mechanism of age-related aging of the endometrium

Kiyoko Kato

Department of Obstetrics and Gynecology, Kyushu University

Currently, as in Taiwan, the problem in obstetrics and gynecology in Japan is the declining birthrate due to late marriages and late childbearing. Some unmarried women are freezing their eggs to prepare for future pregnancies, and the Tokyo Metropolitan Government is subsidizing this practice. The Japan Society of Obstetrics and Gynecology has posted a video on the society's website to let people know about the benefits. LGBTQ has also recently received a lot of attention, and there is a demand for same-sex marriage to be addressed. In this lecture, I will introduce basic research on the role of sex chromosomes in egg formation and the mechanism of age-related aging of the endometrium, in which we have been involved.

Sex differentiation is first genetically determined by sex chromosomes. A set of sex chromosomes is required for gametogenesis in both males and females, as represented by sex chromosome disorders causing agametic phenotypes. Here, we elicit a germ cell-intrinsic effect of sex chromosomes on oogenesis, using a novel culture system in which oocytes were induced from mouse embryonic stem cells (ESCs) harboring XX, XO or XY. In the culture system, oogenesis using XO and XY ESCs was severely disturbed, with XY ESCs being more strongly affected. The culture system revealed multiple defects in the oogenesis of XO and XY mouse ESCs, such as delayed meiotic entry and progression, and mispairing of the homologous chromosomes. In addition, we efficiently converted the XY chromosome set to XX in mouse pluripotent stem (PS) cells. Artificially produced euploid XX PS cells differentiated into mature oocytes in culture with similar efficiency to native XX PS cells. Using this method, we differentiated induced pluripotent stem cells from the tail of a sexually mature male mouse into fully potent oocytes, which gave rise to offspring after fertilization. This is expected to be applied to the preservation of endangered species. We have previously reported the importance of inflammatory cytokine signaling in endometrial aging. We focused our analysis on L17RB, a receptor for IL17, and found that IL1b and JNK signaling induce cellular senescence. Preventing the production of inflammatory cytokines may be useful as a means of preventing age-related decline in pregnancy rate.

Ravi Chandran (P4)

CURRICULUM VITAE

CHANDRAN, Ravi

SUB-SPECIALITY
Maternal – Fetal Medicine

CURRENT POSITION
Consultant OB/GYN Gleneagles Hospital Kuala Lumpur

LEADERSHIP

1996 – 1998	M' sian Representative Committee RCOG
1997 – 2004	President M' sian Ultrasound Society
1998 – 1999	President Perinatal Society of M' sia
2005 – 2006	President O&G Society of M' sia
2011 – 2012	Scientific Chair, RCOG World Congress
2017 – 2019	President AOFOG
2021	Chair Constitutional Review Board, O&G Society of M' sia
2021 – 2023	FIGO Regional Trustee Asia Oceania
2023 –	FIGO Hon Secretary

Dr Ravi Chandran is currently Consultant Obstetrician and Gynaecologist at the Gleneagles Medical Centre in Kuala Lumpur, Malaysia. Following his Membership of the RCOG UK in 1988 and sub-speciality training in Maternal Fetal Medicine at King' s College Hospital London and the John Radcliffe Hospital at Oxford University, he pursued an academic career at the National University of Malaysia as Associate Professor until 1996.

For over a decade, he has served on the Executive Board of AOFOG (Asia Oceania Federation of OBGYN) culminating in his Presidency from 2017-2019. He led the review of the Administrative Manual, Constitution and Web-site and with his inclusive and pragmatic approach, transformed AOFOG into a more efficient, pro-active and member-centric organisation

He was involved in the development of the FIGO Articles of Association (Constitution) in 2019, and in 2020, played an active role as a member of the FIGO Strategic Planning Committee. He was elected as FIGO Trustee for Asia Oceania in 2021 and has been able to align the aspirations of FIGO and AOFOG, resulting in a sound collaborative foundation between the two organisations. He also serves on the Expert Advisory Panel of the BMGF-FIGO Leadership Initiative, where he is actively involved in leadership development in Asia and Africa. He has also led the drive to improve the efficiency of FIGO by streamlining processes and putting in place appropriate SOPs. His passion is governance and leadership empowerment, and he continues to work on these issues within the FIGO framework for the benefit of all members and women across the globe. He was made an Honorary Fellow of TAOG in August 2023 and in October 2023, was elected as Honorary Secretary of FIGO.

Paradigm shifts in Obstetric Practice

Ravi Chandran
FIGO Hon Secretary
AOFOG Past President

Since the introduction of the "man-midwife" in the 17th century, obstetric practice has changed in leaps and bounds especially in the last 3 decades or so. Significant changes have occurred in the management of the pregnant patient in all 3 trimesters, and the concept of a fourth trimester has now been introduced as part of a life course approach. Much of what we do today has been shaped not only by experience and evidence, but also by litigation, the media and technological advances.

Jeanne Conry
(P5)

CURRICULUM VITAE

Jeanne Ann Conry, MD, PhD

President, The Environmental Health Leadership Foundation

Past President, The International Federation of Gynecology and Obstetrics

Past-President, American College of Obstetricians and Gynecologists

E-mail: jeanneconry@gmail.com

Employment/Leadership Positions

2021- 2023	Immediate Past President, the International Federation of Gynecology and Obstetrics (FIGO)
2017-present	President, CEO and founder Environmental Health Leadership
2021-2024	The Partnership for Maternal, Newborn and Child Health (PMNCH) ,WHO
2016-2026	Chair, Women' s Preventive Services Initiative
2013-2014	Past-President of the American College of Obstetricians and Gynecologists (ACOG).

Education

1982-1986	Medical Degree, University of California, Davis

Awards and Fellowships

2018-present	Honorary Fellow, Taiwan Association of Obstetrics and Gynecology

Preconception to Infancy: Why 1000 days is not enough !

JEANNE ANN CONRY, MD, PHD

Our colleagues in pediatrics have eloquently marshalled an argument that a child's life, and hence a mother and truly a family's investment, requires a focus on the first 1000 days. But as obstetrician gynecologists, we know that this focus misses an important point: investments in health begin long before conception, long before pregnancy, and certainly long before birth. One thousand days is NOT enough. In fact, assuring that a woman's health is optimized across her life course is essential for all of us and IF a woman elects to conceive, then her health for the year before pregnancy is important. This lecture will explore the roles of OBGYN leadership and empowering women in advancing a message of *Preconception to Infancy: Investing in our Futures!*

First: Leadership. It is up to OBGYNs from around the world to help all understand that the health of women across their lifespan is a priority, for the health of these women, for families, communities, and our global health. We are the strongest messengers who can advocate for policy change to make certain that our health systems provide the necessary screening, diagnosis and treatment. This message must also carry the importance of contraception access, family planning, and abortion. Reproductive health and reproductive choices are basic elements of women's health care. OUR Leadership message is one of Empowerment for women in all facets of life, in all aspects of family planning, in all outlooks of global health.

Second: Preconception Health. Preconception health is really well woman health care—but with one key question that must be asked: "Are you interested in conceiving this year"? If a woman says no—then we optimize all elements of her health with dietary and exercise advice, mental health, screening, diagnosis and treatment, and provide the appropriate contraception so that she is making a choice specific for her needs and desires. In other words, a woman's health is optimized. But, if a woman is interested in conceiving, we focus on her health and all considerations that can impact a pregnancy and the health of her child. Her vaccinations, her diet, exercise and weight, her intake of a daily prenatal vitamin, her exposure to endocrine disrupting chemicals, screening for hypertension, diabetes, thyroid disorders. We are working with women to optimize their health, their health choices, with attention paid to any exposure that can adversely impact the fetus and children. It takes a community supported by the knowledge of physicians and the empowerment of women to demand that we support women's health and if a woman in interested in conceiving we create the environment for a healthy pregnancy.

Third: Maternal Health. Obstetrician Gynecologists are the only specialists caring for two patients simultaneously. We share a goal with our patients and their families that we will have two healthy patients at the end of nine months. These nine months are based upon shared decision-making, communication and a systematic attention to the many choices and treatments a woman, her family and the infant experience. Ban Ki Moon said: "Saving our planet, lifting people out of poverty, advancing economic growth... these are one and the same fight. We must connect the dots between climate change, water scarcity, energy shortages, global health, food security and women's empowerment. Solutions to one problem must be solutions for all."

Stella M. Dantas
(P6)

CURRICULUM VITAE

Stella M. Dantas, M.D., FACOG

Education and Postgraduate Training

Residency July 1997 – June 2001	**Resident**, John A. Burns School of Medicine, University of Hawaii Obstetrics and Gynecology Residency Program Honolulu, Hawaii
Medical Education September 1993 – June 1997	**Doctor of Medicine**, Oregon Health & Science University Portland, Oregon
Undergraduate Education August 1989 – May 1993	**Bachelor of Arts**, Major in Molecular Cell Biology with emphasis in Neurobiology and Minor in Music, University of California at Berkeley Berkeley, California

Employment Experience

July 2001 – Present	**Obstetrician and Gynecologist** Northwest Permanente, P.C. Physicians and Surgeons Portland, Oregon

Honors and Awards

2023 Outstanding District Service Award, American College of Obstetricians and Gynecologists

2018 Improvement in State Legislative Advocacy Award, American College of Obstetricians and Gynecologists (Submission for "No Cuts to Care" Campaign Collaboration

2017 Kaiser Permanente Executive Leadership Program, Harvard Business School Graduate

Memberships

1997 – Present	**American College of Obstetrics and Gynecology** Junior Fellow (1997-2004), Fellow (2004 to present)
2001 – Present	**Oregon Medical Association** Committee member on **OMA Legislative Committee** (2011 to present)

Professional and Community Service in ACOG

2023 – 2024	Member of the CEO Search Committee
2023 – 2024	Chair of the Task Force on Advocacy Approach to Abortion Policy
2023 – 2024	President Elect
2021 – 2022	Member of the Executive Committee of the Board
2021 – 2022	Chair of the Council of District Chairs

Gynecologic Cancer Screening for the Generalist

Stella Dantas, MD, FACOG
President Elect, American College of Obstetricians and Gynecologists (ACOG)

The objective of this presentation is to review gynecologic cancer screening for the obstetrician/gynecologist.

Since the widespread implementation of cervical cancer screening, the number of deaths from cervical cancer in the United States decreased substantially having declined from 2.8 to 2.3 deaths per 100 000 women from 2000 to 2015. The United States Preventive Services Task Force (USPSTF) in 2012 made updated recommendations on screening for cervical cancer. Since then, the American Society of Colposcopy and Cervical Cytology (ASCCP) released risk-based management consensus guidelines for abnormal cervical cancer screening, developed with input from ACOG and endorsed by ACOG, which is an update to the recommendations for the care of patients with abnormal cervical cancer screening results. These consensus guidelines follow a risk-based approach to determine the need for surveillance, colposcopy, or treatment and recommend consideration of a patient' s screening history, along with current test results, to guide clinical decision making.

The Centers for Disease Control and Prevention sponsored a project conducted by ACOG to develop educational materials for clinicians on the prevention and early diagnosis of gynecologic cancers. ACOG convened panel of experts to review evidence, relevant literature, best practices, and existing practice guidelines to develop evidence-based summaries to review epidemiology, risk factors, risk reduction, screening, and early diagnosis of uterine, ovarian, and vulvar and vaginal cancers.

Both the current consensus guidelines for cervical cancer screening and the evidenced based summaries regarding best practices for screening and early diagnosis of uterine, ovarian, and vulvar and vaginal malignancies will be reviewed in this presentation.

TAOG
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AOFOG Session

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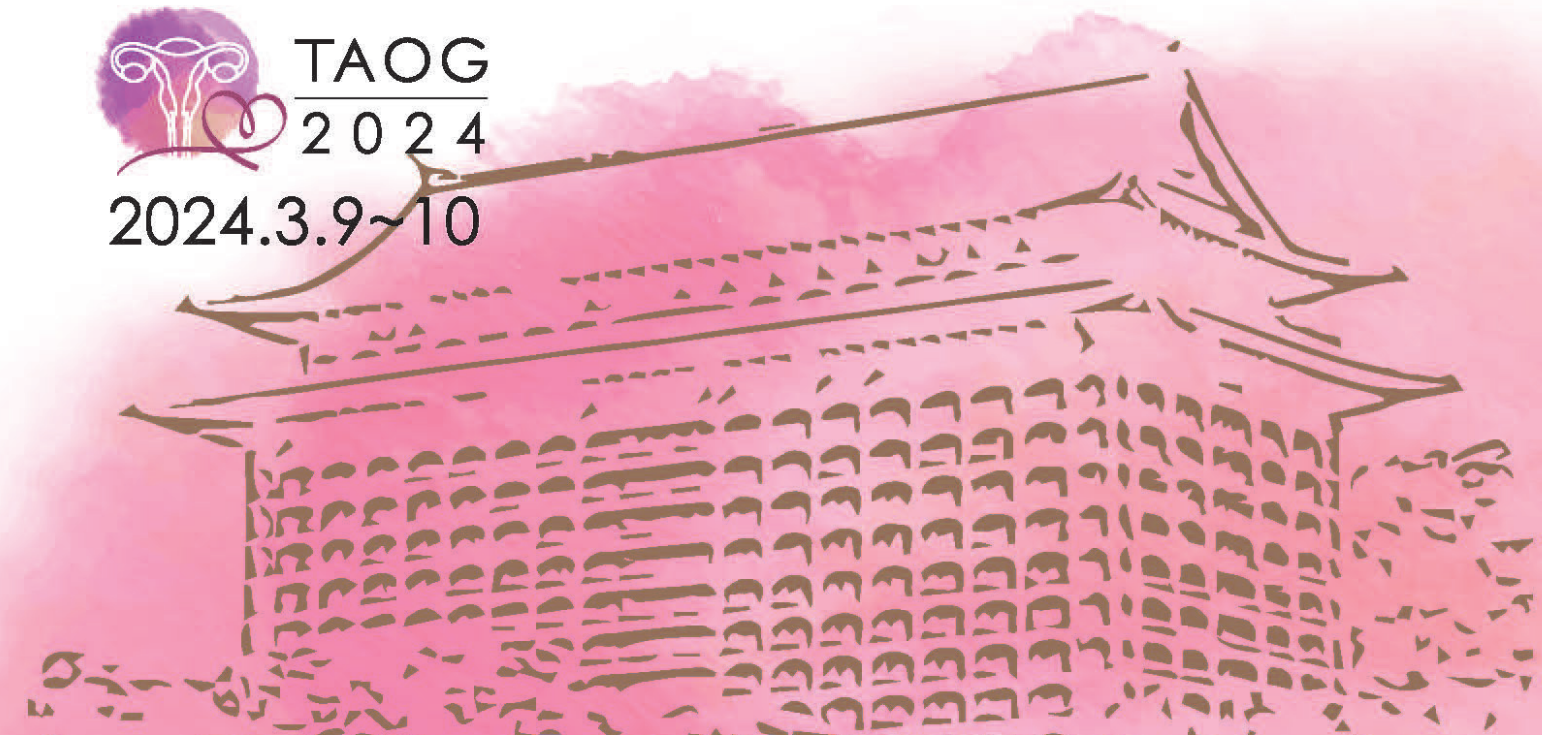
TAOG
2024
2024.3.9~10



Pisake Lumbiganon

(IS1)

CURRICULUM VITAE

Pisake Lumbiganon , MD, MS(Penn), FRCOG(ad eundem)

- President, Asia Oceania Federation of Obstetrics and Gynecology (AOFOG)
- Professor of Obstetrics and Gynecology and former dean, Faculty of Medicine, Khon Kaen University
- Director, WHO Collaborating Centre for Research Synthesis in Reproductive Health
- Convenor, Cochrane Thailand
- Past President, Royal Thai College of Obstetricians and Gynaecologists

Operationalize cervical cancer elimination in AOFOG

Pisake Lumbiganon, MD, MS(Penn), FRCOG (ad eundem)
President, Asia and Oceania Federation of Obstetrics and Gynecology

Cervical cancer is a leading cause of mortality among women. In 2020, an estimated 604,000 women were diagnosed with cervical cancer worldwide and about 342,000 women died from the disease. Cervical cancer is the most commonly diagnosed cancer in 23 countries and is the leading cause of cancer-related death in 36 countries. The vast majority of these countries are in sub-Saharan Africa, Melanesia, South America, and Southeastern Asia.

The World Health Organization has recommended programmatic interventions over the life course to prevent HPV infection and cervical cancer. In May 2018, Dr. Tedros Adhanom Ghebreyesus, WHO Director-General, issued a call to action for the elimination of cervical cancer and in November 2020, he launched the Global Strategy to accelerate the elimination of cervical cancer, including the following targets for each of the three pillars for 2030: (1) 90% HPV vaccination coverage of eligible girls, (2) 70% screening coverage with a high-performance test, and (3) 90% of women with a positive screening test or a cervical lesion managed appropriately.

The United Nations also focused on the elimination of cervical cancer as a public health concern and few years ago launched the UN Joint Global Programme on Cervical Cancer Prevention and Control. Myanmar and Mongolia were selected by the UN to be priority countries for cervical cancer elimination. At the country level, the focus is on three priorities: (1) human papilloma virus immunization for girls, (2) screening and treatment for cervical precancer for women, and (3) diagnosis and treatment of invasive cervical cancer, including palliative care, available to all women.

In January 2018, during the AOFOG Executive Board meeting in Penang, Malaysia, formally adopted cervical cancer elimination as a priority issue and in November 2019 the Manila Declaration was launched during the AOFOG Congress in Manila, Philippines.

During the AOFOG Actin Plan Meeting last July 23, 2022 in Bangkok, Thailand, a working group on cervical cancer elimination was established and chaired by Dr. Christia Padolina.

For Thailand, in October 2017, HPV vaccination for girls was included in the expanded program for immunization (EPI). On December 7, 2017, a memorandum of understanding was signed between the Royal Thai College of Obstetricians and Gynecologists and the Ministry of Public Health of Thailand to eliminate cervical cancer. In July 2020, the National Health Security Office started cervical cancer screening by HPV DNA as a health benefit for all eligible women. In March 2023, self-sampling HPV DNA screening was approved as a health benefit for eligible women. Social media, presenters, and village health volunteers are used to promote and increase the coverage of cervical cancer screening. Finally, trainings for colposcopy are organized regularly so that it is available in all provinces in Thailand.

Rohana Haththotuwa (IS2)

CURRICULUM VITAE

Rohana Haththotuwa

- Founder Chairman, Ninewells CARE Mother & Baby Hospital
- Secretary General AOFOG
- Immediate Past President South Asian Federation of Obstetrics & Gynaecology (SAFOG)
- Immediate Past President, South Asian Federation of Menopause Societies
- Immediate Past President, World Gestoses Organisation
- Past Chair, Menstrual Disorders Committee FIGO
- Past President Sri Lanka College of O & G
- Past President Sri Lanka Menopause Society
- Member, WHO MPDSR Technical Working Group

Heavy Menstrual Bleeding- Strategies to Best Cure

Rohana Haththotuwa, Secretary General AOFOG

Abnormal uterine bleeding (AUB) in nonpregnant girls and women of reproductive age; include abnormalities in frequency, regularity, and duration of menses, as well as bleeding that occurs in the days between the otherwise predictable onset of menstruation. When it has been present for the majority of the last six months its denoted as chronic AUB.

Heavy menstrual bleeding (HMB) is one of the components of AUB. When the amount of menstrual blood lost by a woman is of a volume sufficient to adversely impact her physical, emotional, social, or material quality of life, it is defined as heavy menstrual bleeding (HMB.). It can occur alone or in combination with other symptoms.

Acute Abnormal Uterine Bleeding refers to an episode of bleeding that is of sufficient quantity to require immediate intervention to prevent further blood loss.

The incidence and the symptoms of HMB appears to be under reported. This may be related to many factors of social ethnic and religious practices. In many societies there is a social eversion to discuss menses and many women perceive the excessive blood loss s normal. It may be normalized by the parents and the health care. Providers. These cultural believes in many countries could result in *preventing women obtaining proper information, leading to-delay in seeking treatment, non-acceptance of treatment, discontinuation of treatment & seeking traditional methods as treatment* HMB is a Prevalent condition in developing countries. Up to 28% of women ages 36-40 years in India (1) It has been reported that 9-20% lose menstrual blood > 80cc/cycle(2,3) *1.*and in the UK each year 5% women aged 30-49 present for care and 880,000 seek care for HMB (4). In an internet based survey done on women in 5 European countries to find the prevalence and impact of heavy menstrual bleeding (HMB) among women in Europe, and their experience of HMB assessment and management only27.2%) of the 4706women who responded had experienced two or more HMB symptoms within the previous year. Of these women, 564 (46.0%) had never consulted a physician. Only 152 (46.1%) of the 330 patients with confirmed HMB had received prescription medication for iron deficiency. So many women affected by HMB do not seek medical help, and few of those who do consult physicians report that they have received appropriate treatment. HMB continues to be underdiagnosed and poorly treated(5). HMB impacts on the quality of life of adolescent girls and women disrupting woman' s day to day activities, social, sexual & family life. Iron deficiency anaemia due to HMB is a significant problem in the developing countries and HMB could be a warning sign of a major condition like Fibroids, Endometrial carcinoma. For those who become pregnant, iron deficiency anemia (IDA) is associated with multiple adverse obstetric outcomes, and it could also have an irreversible negative impact on fetal neuro development.

Causes of HMB can be considered under the PALM COEIN classification according to the different age groups. In the Reproductive age group, the causes include, AUB – A, AUB -O, AUB-Lsm, AUB-C, AUB-I (anticoagulants), AUB-N. In the Premenarchial age group it could be due to AUB-O AUB-C or AUB-I (anticoagulants) & in the perimenopausal group the causes are AUB-O, AUB-I (anticoagulants)& AUB-M In two surveys done to find the prevalence of Von Willebrand' s disease as a cuase of HMB it has been found to be high as 13 -16.5% (6)

In developed countries **history and examination** is one of MANY tools clinicians can use to evaluate patients with HMB But as the access to investigations may be limited in developing countries, history and examination is the KEY to the diagnosis and management. It can give

pointers to find the extent of bleeding, identify the potential pathology, identify factors which will influence treatment & obtain an idea about patient's concerns, expectations.

History will include, details of current episode, effects on quality of life, past menstrual history, past gynecologic history & past medical history. Physical examination should assess the hemodynamic stability, determine amount of bleeding, evaluate for genital trauma, vaginal/ cervical lesions & determine the likely pathology.

Evaluation of the endometrial cavity, endometrium and the Myometrium should be done to determine the cause. Endometrial cavity is evaluated by trans vaginal ultrasound scanning, Infusion sonography and hysteroscopy. These would detect endometrial or submucous polyps, fibroids or any other intra cavitary lesions. Then the myometrium is evaluated by sonography or MRI. These would help to Identify and characterize leiomyomas.

a. FIGO type (3 and up)
b. Dimensions
c. Location
d. Margin between myoma and serosa

And to Identify and characterize adenomyosis. Also, to distinguish adenomyomas from leiomyomas.
Investigations to determine the effects of blood loss needs to be done.

Management

There are multiple barriers to the management in developing countries such as, women do not know consequences of heavy bleeding, delay in seeking treatment, lack of knowledge among women and providers about treatment method, limited availability of treatment options, cost of treatment & failure to follow up & continue treatment.

Medical or surgical methods are available for the management of HMB.

Medical management is decided on, based on medical history & the presence of contraindications to therapies.

Surgical management is indicated when its not suitable for medical management, failure of response to medical management and when patient is not stable clinically.

Choice of surgical management depends on

- Underlying medical condition and pathology
- Desire for future fertility

Long term maintenance therapy in chronic AUB

Iron Supplementation

Medical management is usually the first line and the mainstay of treatment. Choice of the drug depends on the availability, affordability, acceptability, and the effectiveness. To improve the success of the treatment it is necessary to individualise the treatment and involve the patient in decision making of choosing the drug. Drugs available for the treatment of AUB -E includes , Progestins , COX inhibitors, Anti fibrinolytics , contraceptives, Levnogesterol Intra uterine systems (LNG IUS) and Danazol with differing success rates. LNG IUS has shown a 80% reduction in bleeding volume in 3 months (7).

Procedural/Surgical management

- **AUB -E - Diagnostic and therapeutic Dilatation and Curettage (D&C).**

It has an advantage of been an effective method, but has been investigated less.
Has the advantage of preforming Histopathological evaluation to evaluate the endometrium.
It' s helpful to exclude AVM before procedure. Therapeutic effect lasts for same cycle and

next one cycle. It' s valuable in low resource setting. But concomitant hysteroscopy is preferred.

- **AUB-P –** Can be best treated by hysteroscopicaly directed polypectomy. Blind removal leads to high failure rate with higher incidence of recurrence and also high rate of failure for HMB(8,9)
- **AUB- A-** Uterus sparing adenomyomectomy is the procedure of choice. Removal of the adenomyoma entirely from the myometrium by wide excision.
- **AUB -L** Depending on the site, size and the number of myomas they are manged by polypectomy, myomectomy or hysterectomy. Performed using, resectoscope, laparoscope or by Laparotomy depending on the situation.

Other Procedures

- **Endometrial ablation-** Would be helpful in AUB – E. Performed by destruction of the endometrium by application of various forms of energy directly to endometrium.
  Pre-requisites- Failed other treatments or are contraindicated, Poor surgical candidates, completed their families & endometrial sampling reveals no evidence of uterine or endometrial malignancy.

- **Uterine Artery Embolization** -This is percutaneous image guided embolization of uterine arteries. Indications include, AUB-N (Arteriovenous malformation), AUB-L, AUB-A . Some of the complications encountered are
  Post-embolisation syndrome with pain, nausea, vomiting, malaise, fever, femoral hematoma, non-purulent vaginal discharge, needing hysterectomy- infection/ necrosis with severe pain, amenorrhoea (5%), ovarian failure (1%)

- **Hysterectomy-** This is considered as the last resort: If future fertility not desired
  Could be done by - laparotomy, vaginally, laparoscopically
  Advantages include, it been a one-time permanent procedure, resulting in complete amenorrhea
  Side effects are it' s a major surgical procedure with attendant complications, psychosexual dysfunction and cultural issues of removing the uterus

Long term management-

Finally, the patient must be managed long term preventing any recurrence of HMB and preventing and treating any iron deficiency anaemia which would have resulted from the HMB.

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Krishnendu Gupta

(IS3)

CURRICULUM VITAE

Prof. Krishnendu Gupta

MBBS (Mangalore), DGO (Manipal), MD (Manipal), FICMCH, FICOG, FRCPI (Ireland), FRCOG (Ad eundem, UK), FACOG (Hon)

Professor & Unit Head,
Department of Obstetrics & Gynaecology,
Vivekananda Institute of Medical Sciences,
Ramakrishna Mission Seva Pratishthan, India.

Academic and administrative

- Professor & Unit Head, Dept of Obstetrics & Gynaecology, Vivekananda Institute of Medial Sciences (VIMS), Kolkata since 2002.
- Adjunct Professor, Dept of Obstetrics & Gynaecology, Kasturba Medical College (KMC), Manipal since 2017.
- International Lead Fellow for MRCPI Part II Obstetrics & Gynaecology OSCE/Clinical Examinations, RCPI, Dublin, Ireland since 2022.
- Deputy Secretary General, AOFOG, 2022– 2024.
- Chair – Climate Change & Pollution Working Group, AOFOG, 2022– 2024.
- Member – COVID-19 Advisory Group, AOFOG, 2020– 2024.
- FOGSI Representative to Asia Oceania Federation of Obstetrics & Gynaecology (AOFOG), 2020– 2023.
- Member – Climate Change and Toxic Environmental Exposures Committee, International Federation of Gynecology & Obstetrics (FIGO), 2021– 2025.
- Co-Chair – Women' s Sexual & Reproductive Rights Committee, South Asian Federation of Obstetrics & Gynaecology (SAFOG), 2021– 2025.
- Chair – Sexual & Reproductive Health Committee, AOFOG, 2019– 2022.
- Chairperson, Indian College of Obstetricians & Gynaecologists (ICOG), 2016.
- Vice President, The Federation of Obstetric & Gynaecological Societies of India (FOGSI), 2011.
- National Corresponding Editor, The Journal of Obstetrics and Gynaecology of India (JOGI), 2014– 2016, 2021– 2023 and 2024– 2026.
- Peer Reviewer: IJGO, JOGR, JOGI, JIMA.
- President, Indian Society of Perinatology and Reproductive Biology (ISOPARB), Kolkata Chapter, 2015– 2019.
- Chairman, Reproductive Endocrinology Committee, FOGSI, 2003– 2007.

Impact of Climate Change, Environmental Toxins and Pollution on the AOFOG region: What can OBGYNs do?

Prof Krishnendu Gupta
MBBS, DGO, MD, FICMCH, FICOG, FRCPI (Ireland), FRCOG (Ad eundem, UK), FACOG (Hon, USA)

Professor & Unit Head, Dept of Obstetrics & Gynaecology, Vivekananda Institute of Medical College (VIMS), Kolkata, West Bengal
Deputy Secretary General, AOFOG, 2022 – 2024
Chair – Climate Change & Pollution Working Group, AOFOG, 2022 – 2024
Member – Climate Change and Toxic Environmental Exposures Committee, FIGO, 2021 – 2025

Climate change is a reality and occurring at a rapid pace. A recent assessment by the United Nations Intergovernmental Panel on Climate Change (IPCC) states that climate change is happening faster than expected and that the window to act is quickly closing.[1]

The COVID-19 pandemic has forced the global community to face its universal vulnerabilities to the forces of nature. The experience of this dreadful pandemic has contributed to an outpouring of opinion that the next global disaster is not rooted in nature, but rather is the result of human activity changing the climate of the earth, a conclusion supported by abundant and credible scientific data.[2]

Climate change now appears to be the 'next pandemic' indeed, with increasing global temperatures and frequency and intensity of extreme weather events, changes in precipitation patterns and rising sea levels and huge impacts on human disease and mental health. These events are predicted to have devastating effects on global food and water supplies and quality, economic sustainability, forced population migrations, and civil conflict, and thus physical and mental health-related illnesses.[3]

More importantly, climate change poses the most significant threat to women's health and is expected to disproportionately affect women, unborn children, and children, making them vulnerable to numerous adverse health effects. Its sequelae may lead to a worldwide public health disaster whose impact will be widespread.

We are aware that heat and air pollution exposure can result in congenital health issues. From physiological problems to anatomical defects, alterations in the environment such as ambient temperature and particulate matter play a significant role in this process.[4,5] Similarly, air pollution exposure has been linked to cardiac complications, alterations in the epigenetics, and other pregnancy problems.[6]

As women's healthcare providers in the AOFOG region, it is our responsibility to protect the health of our patients, and assist them through political advocacy, providing family planning services, focusing on nutrition with special emphasis on lifestyle counseling. If we strive to adopt definitive strategies to both empower our patients and educate ourselves, we will have the opportunity to mitigate the potentially devastating effects of climate change on women. In addition, FIGO joins a broad coalition of international researchers and the

medical community in stating that the current climate crisis presents an imminent health risk to pregnant women, developing fetuses, and reproductive health, and recognizing that we need society-wide solutions, government policies, and global cooperation to address and reduce contributors, including fossil fuel production, to climate change.[7]

Following the footsteps of FIGO and its vibrant Committee on Climate Change and Toxic Environmental Exposures (C2TE2),[8] the efforts taken by AOFOG to establish the Climate Change & Pollution Working Group (CCPWG) in July 2022 and its role, objectives, focus and plans will be highlighted, in additional to sharing some personal experiences in this much needed area of focus.

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5. Haghighi M, Wright C, Ayer J et al. Impacts of high environmental temperatures on congenital anomalies: A systematic review. International Journal of Environmental Research and Public Health. 2021;18(9):4910. doi:10.3390/ijerph18094910.
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Invited Speaker Lecture

【*IS4-6*】

TAOG
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Noriaki Sakuragi

(IS4)

CURRICULUM VITAE

Noriaki Sakuragi
Professor Emeritus, Department of Obstetrics and Gynecology, Hokkaido University Graduate School of Medicine

Academic Degrees

Mar 1976 M.D. Hokkaido University School of Medicine
Mar 1982 Ph.D. (D.Med.Sci) Hokkaido University Graduate School of Medicine

Previous Appointments and Positions

2002-2017 Professor and Chairman, Department of Gynecology (Reproductive Endocrinology and Oncology), Graduate School of Medicine, Hokkaido University
2010-2017 Director, Cancer Center, Hokkaido University Hospital

Research Interest

Nerve-sparing radical hysterectomy for cervical cancer
HPV screening and prevention of cervical cancer
Molecular mechanism of high-grade endometrial carcinogenesis

Awards and Honors

1999 Ohno Research Award, Hokkaido Society of Obstetrics and Gynecology
2011 Hokkaido Medical Association Award
2011 Hokkaido Governor Award
2013-2016 Visiting Professor, Fudan University Obstetrics and Gynecology Hospital
2013-2016 Visiting Professor, Fudan University Shanghai Medical College
2014 Honorary Fellow, Korean Society of Obstetrics and Gynecology
2015 Honorary Fellow, Korean Society of Gynecologic Oncology and Colposcopy
2017 Honorary Fellow, Taiwan Association of Obstetrics and Gynecology
2020 Sugimoto Award, Japan Society of Gynecologic and Obstetric Endoscopy and Minimally Invasive Surgery (JSGOE)
2022 Chien Tien Hsu Memorial Lecture, Asia and Oceania Federation of Obstetrics and Gynaecology

Publications in English (H-index by Web of Science: 49)

Original articles (peer reviewed journals) 210

A practical approach to paracervical tissue dissection in nerve-sparing radical hysterectomy

Noriaki Sakuragi, MD, PhD
Professor Emeritus, Hokkaido University
Women's Healthcare Center, Otaru General Hospital

Surgical anatomy bridges the gap between anatomical knowledge and surgical theory in order to perform cancer surgery safely and effectively. In recent years, the study of pelvic anatomy has played a major role in its application to cervical cancer surgery. The mechanisms of autonomic nerve injury in radical hysterectomy are mainly bladder nerve injury due to transection of the posterior layer of the vesicouterine ligament and damage to the pelvic plexus itself due to transection of the vagina.

The bladder nerve branches arising from the upper and middle parts of the pelvic plexus are mainly sympathetic and divide into lateral and medial branches at the terminal ureter. On the other hand, the bladder nerves arising from the lower part of the anterior border of the pelvic plexus contain both parasympathetic and sympathetic nerves and pass medially to the terminal ureter to the bladder. The main parasympathetic nerves are therefore located in the medial part of the posterior layer of the vesicouterine ligament. Preservation of the bladder nerves passing medially to the ureter is crucial. To achieve this, we selectively sever the uterine nerve branches and free the pelvic plexus and bladder nerves from the lateral aspect of the vagina and rectovaginal ligament.

Based on our actual surgical experience and studies on fresh cadaver dissections, I want to attempt to describe our nerve-sparing surgery. We would like to receive feedback from the participants in order to further improve the nerve-sparing surgery.

Yutaka Osuga (IS5)

CURRICULUM VITAE

Yutaka Osuga, MD, PhD

- Professor and Chair, Obstetrics and Gynecology, Graduate School of Medicine, the University of Tokyo
- Deputy director, the University of Tokyo Hospital
- Vice Chairperson of the Executive Board, Chairperson of International Relations Committee, Japan Society of Obstetrics and Gynecology
- President, Japan Society for Reproductive Medicine
- President, Japan Society of Fertilization and Implantation

Prof. Osuga received his MD in 1985 and PhD in 1995 from the Faculty of Medicine of the University of Tokyo, Japan. He completed his OB/GYN residency training at the University of Tokyo. He trained as a postdoctoral fellow in the field of ovarian physiology in Stanford University from 1995 to 1997. He is board certified by Japan Society of Obstetrics and Gynecology, Japan Society of Gynecologic and Obstetric Endoscopy and Minimally Invasive Therapy, Japan Society for Reproductive Medicine, and Japanese Society of Anti-Aging Medicine.

Prof. Osuga provides clinical services in gynecology and reproductive medicine with special expertise in laparoscopic surgery and assisted reproductive technology. His main research targets cover a wide variety of physiology and pathology of reproduction including endometriosis, implantation, folliculogenesis, and reproductive aging. He has authored over 500 research papers published in eminent peer-reviewed journals and has written and edited many textbooks. He serves as an executive board member of several medical groups and associations and an editor of several international journals. He is frequently sought out to provide his expertise at international medical conferences and academic institutions.

Comprehensive approach to have healthy baby in women with adenomyosis

Yutaka Osuga, MD, PhD

It is well known adenomyosis causes menstrual pain and heavy menstrual bleeding. In addition, fertility and pregnancy of women with adenomyosis are getting more attention. That is because an increasing number of women with adenomyosis want to have babies along with the trend of late childbirth. Adenomyosis seems to cause infertility while the data are inconsistent. For example, protocols of controlled ovarian hyperstimulation, fresh or frozen-thawed embryo transfer, symptoms associated with adenomyosis, and ultrasonic features of adenomyosis seem to have an influence on the effect of adenomyosis on endometrial receptivity. In terms of molecular mechanisms of poor receptivity of the uterus with adenomyosis, we recently demonstrated that adenomyosis often has gene mutations of KRAS in the endometrial epithelial cells. KRAS mutations decrease the expression of progesterone receptors, which might induce the reduction of receptivity of the endometrium in adenomyosis. We also discovered that STAT3 activation is observed in the endometrial epithelial cells in adenomyosis uterus, but not in normal uterus, during the secretory phase. Since STAT3 activation induces cell proliferation, STAT3 activation might also be involved in the reduced receptivity via impaired cessation of the endometrial epithelial cells. Regarding the treatment of the deteriorated receptivity, GnRH agonist pretreatment followed by thawed embryo transfer is reported to restore the receptivity, probably by improving gene expression of molecules for implantation. There are many complications in pregnancy in women with adenomyosis. Adenomyosis increases the incidence of miscarriage, preeclampsia, and placental malposition. In addition, degeneration of adenomyosis during pregnancy and after delivery sometimes causes intractable consequences, such as infection and fever. Tackling these problems are often painstaking. Adenomyomectomy is a surgery that needs high skills. To overcome infertility or problems during pregnancy, we sometimes conduct adenomyomectomy. However, adenomyomectomy entails an increased risk of uterine rupture. We need to weigh pros and cons prudently and consult expert obstetricians as well as patients before deciding to conduct adenomyomectomy.

Thomas M. Gellhaus (IS6)

CURRICULUM VITAE

Thomas M. Gellhaus, MD

Dr. Thomas Gellhaus is a Professor Emeritus in the Department of Obstetrics and Gynecology at the University of Iowa Carver College of Medicine in Iowa City, Iowa. Dr. Gellhaus received his Bachelor of Arts Degree in Chemistry from Augustana College in Sioux Falls, South Dakota, his Bachelor of Medicine Degree from the University of South Dakota in Vermillion, South Dakota, and his Doctor of Medicine Degree from the University of Oklahoma in Oklahoma City, Oklahoma. Following 3 years of Pathology Residency at the University of South Dakota, he completed his residency in Obstetrics and Gynecology at the University of Iowa Hospitals and Clinics. After residency, he entered private practice in Davenport, Iowa and after 20 years in private practice, he returned to academic medicine at the University of Iowa, Department of Obstetrics and Gynecology as a Clinical Associate Professor. He had been at the University of Iowa for 10+ years and was promoted to Clinical Professor in July 2017. Dr. Gellhaus is the Past President of the American College of Obstetricians and Gynecologists. He has served ACOG and its members for more than 25 years in various positions. Dr. Gellhaus' interests are in the area of mentoring, advocacy and healthcare policy for providers and patients. He has completed the McCain Fellowship, a month long in-depth experience in advocacy, at ACOG in Washington, D.C. in 1999. In 2001, he was a Primary Care Policy Fellow with the U.S. Department of Health and Human Services. He has remained active in advocacy and policy as a member of ACOG' s Government Affairs Committee and the Ob/Gyn PAC. He also founded and endowed the Gellhaus Resident Advocacy Fellowship at ACOG allowing third or fourth year residents to gain further advocacy and health policy experience over a four week resident elective rotation. He has received numerous teaching awards and honorary fellowships around the world. Dr. Gellhaus has also been very active in leading groups on short-term medical and surgical mission projects for the last 20 years. He has done numerous presentations about these short-term medical and surgical mission projects throughout the United States. Dr Gellhaus and his wife, Melanie, recently endowed the newly formed Global Women' s Health Program at the University of Iowa, Department of Obstetrics and Gynecology. Dr Gellhaus is currently the Vice Chair of Health Volunteers Overseas.

Mentoring Our Next Generation

Thomas M. Gellhaus, MD

Medicine been become incredibly complicated – not only with navigating the world of finance and payors but also with the proliferation and availability of information. Mentoring has never been more important, not only for our younger learners and junior associates but also for each one of us. Learning how to become a great mentor is vital and is more important now than ever.

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【*J1-9*】

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Seung Mi Lee
(J1)

CURRICULUM VITAE

Seung Mi Lee, MD.PhD

Current position

- Clinical Professor, Department of Obstetrics and Gynecology, Seoul National University Hospital, Seoul, Korea.
- Division Head, Division of Big Data Infrastructure, Department of Data Science Research, Seoul National University Hospital, Seoul, Korea.

Education Carrier

1996/3 – 2002/2	M.D.	Seoul National University, College of Medicine, Seoul, Korea
2006/9 – 2008/8	M.S.	Seoul National University Graduate School
2009/9 – 2011/2	Ph.D.	Seoul National University Graduate School

Medical Training

2002/3 – 2003/2	Intern, Seoul National University Hospital, Seoul, Korea
2003/3 – 2007/2	Resident, Department of Obstetrics and Gynecology, Seoul National University Hospital, Seoul, Korea
2007/3 – 2009.7	Fellow, Division of Maternal-Fetal Medicine, Department of Obstetrics and Gynecology, Seoul National University Hospital, Seoul, Korea
2009/8 – 2011/6	Assistant Professor, Department of Obstetrics and Gynecology, Center for Health Promotion and Optimal Aging, Seoul National University Hospital, Seoul, Korea
2011/7 – 2015/8	Assistant Professor, Department of Obstetrics and Gynecology, Seoul Metropolitan Government Seoul National University Boramae Medical, Center, Seoul, Korea
2015/9 – 2017/2	Assistant Professor, Department of Obstetrics and Gynecology, Seoul National University Hospital, Seoul, Korea
2017/3 – 2022/2	Associate Professor, Department of Obstetrics and Gynecology, Seoul National University Hospital, Seoul, Korea
2022/3 – Present	Professor, Department of Obstetrics and Gynecology, Seoul National University Hospital, Seoul, Korea
2020/4 – 2021/3	Visiting Associate Professor, Department of Biostatistics, Epidemiology & Informatics, The Perelman School of Medicine, University of Pennsylvania

Artificial intelligence in maternal-fetal medicine

Seung Mi Lee, MD, PhD
Department of Obstetrics and Gynecology, Seoul National University College of Medicine, Seoul, Korea

Machine learning is a branch of artificial intelligence which focuses the use of data and algorithm to imitate the way that humans learn. With the adoption of machine learning, medical scientists expect higher accuracy/performance and identification of novel contributing factors, compared to traditional statistical method. Recently we have reported that machine learning can be used to better predict adverse pregnancy outcomes.

1. Early prediction of pregnancy complications

   Prediction of obstetric complications such as preeclampsia and gestational diabetes in early pregnancy is essential to develop preventive strategies. Using machine learning methods, we have developed prediction model for pregnancy-associated hypertension with the use of clinical variables in early pregnancy, and found that graph-based semi-supervised learning showed the best performance with AUROC of 0.89 in training set and 0.81 in test set. Moreover, the proposed model with graph-based semi-supervised learning showed a higher performance than PlGF measured in early pregnancy.

   We also developed an early prediction model for gestational diabetes mellitus with machine learning, and evaluated if non-alcoholic fatty liver disease (NAFLD)-associated factors can increase the prediction model performance. As a result, inclusion of NAFLD-associated factors significantly increased the performance of prediction model.

2. Real-time prediction of intra-operative complications

   Various complications can happen during high risk surgery. We tried to predict massive transfusion during surgery, because early prediction of massive transfusion is essential for preparation of blood product and additional medical personnel. We evaluated the performance of real-time prediction model for massive transfusion with intra-operative hemodynamic monitoring data. As a result, a real-time prediction model with intra-operative data significantly outperformed the prediction model with pre-operative variables (AUROC 0.972 vs 0.824). This result showed the possibility of artificial intelligence-assisted clinical decision support systems during surgery.

In conclusion, we showed that machine learning can be used in prediction of pregnancy complications and intra-operative complications with high performance.

Akihiro Kawashima
(J2)

CURRICULUM VITAE

Akihiro Kawashima, MD/PhD
Department of obstetrics and gynaecology, Showa University School of Medicine
Email : kurobei343@med.showa-u.ac.jp

Education

04/2013-03/2016 Ph.D., Showa University Graduate School
PhD in Medicine
04/1999-03/2005 M.D., National Defence Medical College

Postgraduate training appointments

06/2005-06/2007 resident, National defence medical college hospital

Employment

10/2023 – present Obstetrics ward director, Dept of OBGYN, Showa University
01/2023 – 09/2023 Senior Head Physician, Dept of OBGYN, NTT Medical Center Tokyo
04/2020 – present Lecturer, Dept of OBGYN, Showa University
04/2016 – 03/2020 Associate professor, Dept of OBGYN, Showa University
08/2011 – 03/2013 Member, Dept of OBGYN, Self Defence Forces Central Hospital
07/2009 – 07/2011 Member, Dept of OBGYN, National Defence Medical College
07/2007 – 06/2009 Medical officer, JGSDF Northern Army

Honours and awards

04/2015 Award of the best reviewer of Japan Obstetrics and Gynaecology Research
02/2016 Kamijo Award for distinguished graduates, Showa University Graduate School
04/2019 Japan Society of OBstetrics and Gynaecology Congress Award

Early-Onset PreEclampsia Is Associated with Altered DNA Methylation in the first trimester villi

Akihiro Kawashima, Akihiko Sekizawa
Department of obstetrics and gynaecology, Showa university

Background: Preeclampsia (PE) is thought to be caused by placenta formation failure during early pregnancy. In preeclampsia, asymptomatic placental oxidative stress from early gestation is a precursor to later multi-organ dysfunction in the mother. The lack of reliable methods for early detection limits the opportunities for prevention, diagnosis, and timely treatment. Cell-free DNA (cfDNA) methylation represents biomarker material that can be isolated from the blood plasma in a minimally invasive manner. Although aberrant DNA methylation in cfDNA has been reported for over a decade, its diagnostic accuracy remains unsatisfactory for predicting PE. Using epigenetic biomarkers and digital PCR technology, we have developed a susceptible cfDNA-based screening test to predict early-onset preeclampsia.

Methods: Chorionic villus samples of pregnant women in the first trimester were recruited for this case-control study to extract candidate genes. Genome-wide DNA methylation was quantified using reduced representation bisulfite sequencing in first-trimester chorionic tissue from pregnant women who later developed early-onset preeclampsia with their fetus confirmed of normal female karyotype and gestational age-matched control. To increase the sensitivity and specificity of cfDNA methylation in the subsequent analysis, we removed hypermethylation CpGs in normal blood from differentially methylated CpGs. Next, check whether these methylated genes could be seen in cfDNA before they were diagnosed with early-onset PE. For this, cfDNA samples were obtained from 125 women in the first trimester, ranging from 11 to 13 weeks of gestation. We employed droplet digital PCR to quantify tiny amounts of methylated DNA of candidates in cfDNA. Epigenetic markers for early-onset PE prediction were selected, and a droplet digital methylation-specific PCR (ddMSP) panel with the selected markers was established.

Results: In the first part of our analysis, we collected DNA methylation status of chorionic villus samples at 12 gestational weeks from two pregnant women later progressing to early-onset PE and four gestation-matched controls with normal female karyotype. We identified 841 candidate hypermethylated genes, and through further analysis, we narrowed down the 20 protein-cording genes for the candidate. A ddMSP using these 20 markers was developed, and prediction models were constructed with a dataset containing cfDNA samples from 9 early-onset PE, 23 late-onset PE and 93 controls. The prediction models adopted three methylation markers (ADORA2B, HOXB4 and ZNF714). The dataset's area under the receiver operating characteristic curve for predicting early-onset PE was 0.82.

Conclusions: Our study pointed out that cfDNA methylation alterations of several genes in chorionic villi probably resulted in altered developmental processes and immune dysregulation, contributing to PE. This study provides essential information to refine the clinical and pathological mechanisms of the severe features in placenta-mediated PE.

Chin-Ru Ker 葛菁如
(J3)

CURRICULUM VITAE

Chin-Ru Ker
Director of Obstetrics and Gynecology Department,
Kaohsiung Medical University Gangshan Hospital

Professional Position

Director, Obstetrics and Gynecology Department,
Kaohsiung Medical University Gangshan Hospital
Attending Physician, Maternal Medicine,
Kaohsiung Medical University Hospital
Consultant and Sonographer, Fetal Medicine,
Kaohsiung Medical University Hospital

Education

2021-	Graduate Program in Clinical Medicine, Kaohsiung Medical University Hospital
2019-2020	Fellow, Maternal Fetal Medicine, Kaohsiung Medical University Hospital
2018-2019	Chief Resident, Obstetrics and Gynecology, Kaohsiung Medical University Hospital
2015-2018	Resident, Obstetrics and Gynecology, Kaohsiung Medical University Hospital
2014-2015	Post-graduate Year Training, Kaohsiung Medical University Hospital
2009-2014	Post-baccalaureate Degree, Kaohsiung Medical University

The Aftermath of Emergency Cervical Cerclage

Chin-Ru Ker, MD
Department of OBS&GYN, Kaohsiung Medical University Hospital, Kaohsiung, Taiwan

According to the statistics reported by World Health Organization, an estimated 13.4 million babies were born preterm in 2020 and the prevalence rate ranges from 4-16% across countries. In Taiwan, premature babies account for 10-11% of newborn babies every year and the number remained consistent if not gradually increasing over the past decade, despite advances in obstetrics and neonatology medicine. Preterm survivors can have long-term health consequences, which is an area the professionals strive to seek solutions for. Emergency or rescue cervical cerclages for painless cervical dilatation or prolapsed amniotic membrane in second trimester can prolong pregnancy compared to conservative treatment with a wide range of success rate (63-90%). However, pregnancy prolongation does not necessarily translate into take-home healthy babies. The procedure could bring previable babies to extreme preterm infants. Infant mortality is still high after long-term follow ups, in addition to considerable morbidity such as prolonged hospital stay, neurodevelopment delay and sepsis. Who and at what gestations ages would most likely benefit from rescue cerclages at long-term are still unclear and should be investigated. Most current practice guidelines are conservative and leave the decision to receive rescue cervical cerclages to individualized considerations, as described by Royal College of Obstetricians and Gynecologists (RCOG 2022), the Society of Obstetricians and Gynaecologists of Canada (SOGC 2019), the International Federation of Gynecology and Obstetrics (FIGO 2021). Patient selection and pre-procedural consultation become crucial in optimizing the management for these patients, both maternal and fetal. In this session, cases with suboptimal maternal or infant clinical outcomes after "successful" emergency cerclages from Kaohsiung Medical University Hospital (KMUH) will be shared to offer some food for thoughts in critical situations like cervical insufficiency with protruding amniotic membrane.

Satoshi Hosoya
(J4)

CURRICULUM VITAE

Satoshi Hosoya
Assistant Professor, The Jikei University school of Medicine
Email: satoshi.tigers53@gmail.com

Education and Professional Career

04/2011-03/2017	A medical student, obtained my MD, The Jikei University School of Medicine, Tokyo, Japan
04/2017-03/2019	A junior resident, National Center for Global Health and Medicine, Tokyo, Japan
04/2019-present	A senior resident, An assistant professor, The Department of Obstetrics and Gynecology, The Jikei University School of Medicine, Tokyo, Japan
04/2020-03/2021	A resident, Center for Maternal-Fetal, Neonatal and Reproductive Medicine, National Center for Child Health and Development, Tokyo, Japan
04/2021-pesent	A graduate student, The Jikei University School of Medicine, Tokyo, Japan
04/2021-present	A researcher, Center for Regenerative Medicine, National Center for Child Health and Development Research Institute, Tokyo, Japan

Main Research Topic

- Endometrial regeneration using stem cells and the development of a novel regenerative therapy for infertility with the injured endometrium

Honors and awards

05/2023	JSOG Congress Award at the 75th annual congress of the Japan Society of Obstetrics and Gynecology
12/2022	The Best Poster Award at the 2nd Science symposium by the Japan Society of Regenerative Medicine
04/2022-06/2023	Research Fellowship for Young Scientists, Doctoral Course Students 1(DC1), Japan Society for the Promotion of Science (JSPS)
03/2019	2019 NCGM The Takaku Prize/The best junior resident of the year, National Center for Global Health and Medicine

Stem cell-based therapy for infertility

Satoshi Hosoya, M.D.
Institution: The Jikei University School of Medicine, Department of Obstetrics and Gynecology

Stem cell-based therapy has been globally expected to be a novel therapeutic strategy for refractory infertility such as Asherman’ s syndrome and ovarian insufficiency. In Japan, under the Act on the Safety of Regenerative Medicine (ASRM), the current status of the research provision plans is publicly accessible on website. However, as of September 2023, among a total of 183 approved research plans, there had been only 4 clinical trials regarding the field of obstetrics and gynecology (OBGYN) under the ASRM (2.2%), of which two trials targeted endometrial infertility with intrauterine administration of autologous peripheral blood lymphocytes or adipose-tissue derived mesenchymal stem cells. In addition, there is no cell and gene therapy product for infertility with the pharmaceutical approval. Thus, the fact suggests that the research of regenerative medicine for infertility is still in the process of developing in Japan. To overcome the current status, I try to now develop a novel stem-cell based therapy for Asherman’ s syndrome using menstrual blood-derived stem cells (MenSCs). In our pre-clinical study using a rodent model with injured endometrium, MenSCs from a patient with Asherman’ s syndrome demonstrated the regenerative efficacy for endometrial infertility through paracrine capacity for tissue repair and angiogenesis. MenSCs have been projected to be a desirable mesenchymal stem cell source due to their easy accessibility, periodic acquisition, beneficial cost-effectiveness, high proliferative ability and low immunological rejection rather than other mesenchymal stem cell sources. Therefore, our research vision is to aim for clinical application of this novel stem cell therapy for endometrial infertility and develop the regenerative medicine in the field of OBGYN. In this conference, I will provide the current status of regenerative medicine regarding OBGYN in Japan and demonstrate our research progress with MenSCs for endometrial infertility.

Chu-Chun Huang 黃楚珺
(J5)

CURRICULUM VITAE

Chu-Chun Huang

Professional Position

2015-	Attending physician, Division of Reproductive Endocrinology, Department of Obstetrics and Gynecology, National Taiwan University Hospital, Taipei, Taiwan
2021-	Assistant professor, Department of Obstetrics and Gynecology, National Taiwan University Hospital, Taipei, Taiwan
2022-	Secretary General, Taiwanese Society for Reproductive Medicine (TSRM)
2022-	Chief, Department of Obstetrics and Gynecology, National Taiwan University Hospital Yunlin Branch, Yunlin, Taiwan

Education and Training

1998-2005	M.D., College of Medicine, National Taiwan University
2006-2010	Fellowship, Division of Reproductive Endocrinology and infertility, Department of Obstetrics and Gynecology, National Taiwan University Hospital
2010-2012	Fellowship, Division of Reproductive Endocrinology and infertility, Department of Obstetrics and Gynecology, National Taiwan University Hospital
2013-2020	Ph.D. Graduate Institute of Clinical Medicine, College of Medicine, National Taiwan University

Professional experience

Assisted Reproductive Technologies

Polycystic ovarian syndrome

Reproductive endocrinology and infertility

Fertility preservation

Insights into the pathophysiology and treatment of PCOS

Chu-Chun Huang, MD. PhD.
National Taiwan University Hospital Yunlin Branch

Polycystic ovary syndrome (PCOS) is the most common female endocrinopathy, affecting up to 8% to 13% of reproductive-age women and is characterized by chronic anovulation, clinical and/or biochemical hyperandrogenism (HA), and polycystic ovarian morphology that constitute the 3 diagnostic features as per the Rotterdam criteria. The impact on women health is huge and lifelong. They may suffer from irregular menstruation during their adolescence and infertility or subfertility during child-bearing age. These women are also at high risk to develop metabolic syndrome, includes insulin resistance, type II diabetes, dyslipidemia, hyperuricemia, and even more, suffer from increased incidence of endometrial hyperplasia or endometrial carcinoma because of chronic anovulation. A number of pathophysiologic explanations have been proposed, including androgen excess and insulin resistance. Androgen excess favoring visceral abdominal fat disposition facilitates an increased secretion of androgens by the ovaries and/or the adrenal glands. Insulin resistance, a common feature of PCOS, leads to compensatory hyperinsulinemia with diverse effects on adipose tissue and androgen production. However, no single etiology can completely explain the full spectrum of this complex disease and the underlying mechanisms remain unclear. In this section, we will briefly introduce the pathophysiology of PCOS and review the most updated international evidence-based guidelines for PCOS assessment and treatment published in 2023, along with some novel findings from our research works.

Hye Gyeong Jeong
(J6)

CURRICULUM VITAE

Hye Gyeong Jeong, M.D. M.S.

Current Position

Clinical Assistant Professor,
Department of Obstetrics and Gynecology (OB/GY), Korea University Anam Hospital

Education

2010-2014	**Master's Degree**, College of Medicine, Catholic University of Korea
2020-2022	PhD, Department of Obstetrics and Gynecology, College of Medicine, Seoul National University

Professional Background

2014~2015	Internship, Samsung Seoul Hospital
2015~2019	Residency, Seoul National University Hospital, Dept. of Obstetrics and Gynecology
2020~2022	Fellowship, Seoul National University Bundang Hospital
2022~	Clinical Assistant Professor, Department of Obstetrics and Gynecology, Korea University Anam Hospital

License

March, 2019	Board Certification in OB/GY (issued by Korean Medical Association)
March, 2014	Korean Medical License (issued by Ministry of Health and Welfare)

Investigation for a relationship between vasomotor symptoms and hypothalamus volumetry using magnetic resonance imaging

Hye Gyeong Jeong[1], Nayoung Jeong[1], Sumin Cho[1], Ki-Jin Ryu[1], Woo-Suk Tae[2], Tak Kim[1], Hyuntae Park[1]
[1]Obstetrics and Gynecology, Korea University Anam Hospital, Korea University College of Medicine, Seoul, Republic of Korea
[2]Brain Convergence Research Center, Korea University, Seoul, Republic of Korea

Vasomotor symptoms (VMS) such as hot flushing and night sweating are representative menopausal symptoms commonly experienced by postmenopausal women. It has been revealed that VMS goes beyond simply quality of life and is associated with an increase in symptoms such as anxiety, depression, and insomnia, as well as cardiovascular disease, metabolic disease, and fractures.

In a series of neuroimaging studies in midlife women, VMS wrer associated with brain health. However, it is unclear whether VMS accounts for changes in brain structure. Voxel-based morphometry (VBM) is a neuroimaging technique that investigates focal differences in the brain region. Our study investigated the association between VMS and VBM findings of the hypothalamus using the three-dimensional reconstruction technique of magnetic resonance imaging among Korean midlife women.

This cross-sectional study included 302 Korean women aged 40-70 years who attended routine health checks including the brain MRI at a single institution from Jan 2010 to Dec 2016. Menopausal vasomotor symptoms were assessed using the results of the Menopause Rating Scale (MRS). Using the axial T1 and T2 MRI of each subject with 6.5 mm slice thickness, the high-resolution T1 MRIs with isotropic 1 mm voxel size were artificially synthesized. Then using the synthesized MRI, subregional hypothalamic volumetry and VBM were performed and correlated with clinical variables.

The mean age of the participants was 55.4 ± 5.4 years, and 232 (76.8%) of them were reported to be postmenopausal. Vasomotor symptoms were experienced by 185 (61.3%) of all participants. VMS were negatively correlated with gray matter volume in both hypothalamic areas in VBM (uncorrected $P < 0.05$ with small volume correction in hypothalamic area radius 20 mm). Sub-regional hypothalamic volumetry showed negative relations with vasomotor symptoms score in the amygdala ($r=-0.155$, $p=0.009$), and hippocampus ($r = -0.169$, $p = 0.004$).

Vasomotor symptoms are associated the hypothalamus volumetry measured using the synthesized MRI among middle-aged Korean women. These findings suggest that the pathophysiology of menopausal vasomotor symptoms might be closely related to changes in specific areas of the brain, especially the hypothalamus. Further longitudinal studies are needed to confirm our findings.

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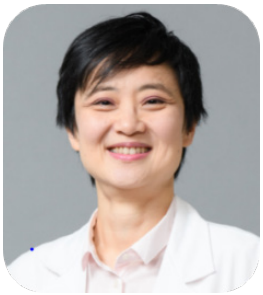
Angel Chao 趙安琪
(J7)



CURRICULUM VITAE

Angel Chao, MD, PhD
Chang Gung Memorial Hospital, Taiwan

Dr. Angel Chao is an Attending within the Department of Obstetrics and Gynecology in Chang Gung Memorial Hospital (CGMH) and Professor at Chang Gung University. She is the Director of Division of Gynecologic Oncology and Head of Gynecologic Cancer Research Center at CGMH. She is board certified in Obstetrics and Gynecology and received her Medical Degree at Taipei Medical University School of Medicine. Dr. Chao performed her Residency and Gynecology Oncology Fellowship Program at CGMH. She is a graduate of The Graduate Institute of Clinical Medical Sciences of Chang Gung University. Dr Chao' s research focuses on translational studies of gynecologic cancer.

Uncovering the molecular landscape of ovarian clear cell carcinoma: towards precision oncology

Angel Chao, MD, PhD
Chang Gung Memorial Hospital, Taiwan

Ovarian clear cell carcinoma (OCCC) is a type of epithelial ovarian cancer that more commonly affects women in East Asia. Notably, OCCC is associated with poorer outcomes compared to high-grade serous carcinomas (HGSCs) of the same stage. This can be attributed, in part, to its higher resistance to chemotherapy and the limited identification of molecular targets for treatment. Through the analysis of whole-exome sequencing data, we found that 40% of 104 OCCC samples exhibited tier 1 or 2 clinically actionable molecular targets. Furthermore, we observed that 42% of OCCCs displayed likely biallelic loss of *ARID1A*. Previously unreported mutations in the 5′ untranslated regions of *TERT* were associated with poor survival outcomes. OCCC exhibited pervasive and heterogeneous somatic copy number alterations. Clonal evolution reconstruction revealed that early clonal and potentially driver events included mutations in *ARID1A*, *PIK3CA*, *TERT*, *KRAS*, and *TP53*. In this presentation, I will also discuss data of genetic alterations in OCCC from Korea and Japan.

Tatsuya Ishiguro
(J8)

CURRICULUM VITAE

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Education

1999 Graduated from Sanjo high school (Niigata, Japan)
2005 Graduated from Niigata University, Medical school (Niigata, Japan)

Professional training and Employment

April 2014-Present	Assistant Professor in Niigata University Medical and Dental Hospital
April 2013- March 2014	Medical Staff in Niigata University Hospital
April 2010- March 2013	Research Resident, National Cancer Center Hospital, Research Institute (Tokyo, Japan)
April 2007- March 2010	Senior Resident in Obstetrics and Gynecology, Niigata University Hospital, Niigata City General Hospital, and Tsuruoka Municipal Shonai Hospital (Yamagata, Japan)
April 2005- March 2007	Junior Resident, Niigata University Hospital (Niigata, Japan)
2005	Passed the Examination of National Board

Memberships

Japan Society of Obstetrics and Gynecology
Japan Society of Reproductive Medicine
Japan Society of Gynecologic Oncology
Japan Society of Perinatal and Neonatal Medicine
Japan Society of Gynecologic and Obstetric Endoscopy and Minimally Invasive Therapy
Japan Society of Menopause and Women' s Health
Japan Society of Gynecologic Oncology
Japanese Cancer Association

Honor & Awards

2022 AOFOG Young Gynaecologist Award
2020 The University of Niigata President's Award
2018 Niigata Medical Association Encouragement Award
2017 Japan Society of Gynecologic Oncology Congress Encouragement Award
2016 Japan Society of Obstetrics and Gynecology Best Scientific Paper of the Year

Novel therapeutic strategy targeting cancer heterogeneity and metabolism based on a cancer stem cell model

Tatsuya Ishiguro, Niigata University

Objective: Cancerous tissues comprise heterogeneous malignant cells. Cancer stem cells (CSCs), a subpopulation of cells with tumorigenic, self-renewal, and differentiation potential, are instrumental in cancer propagation and proliferation. in vitro three-dimensional culture systems derived from human clinical specimens may be a useful platform to develop new therapeutic strategies for refractory cancer. In this study, we introduced a stable cultivation method for gynecological CSCs. Furthermore, we investigated the biochemical characteristics of CSCs to develop an innovative treatment approach targeting CSCs.

Methods: Tumor or ascites samples were obtained from patients treated at the Niigata University or National Cancer Center Hospital. Following enzymatic dissociation of cancerous tissues, cells were cultured in ultra-low-attachment dishes in a serum-free medium. A xenograft model was established after transplantation of stable growing cells. Our study protocol was approved by the Ethics Committee, and all patients provided informed consent.

Results:

1. in vitro human gynecological CSCs cultivation:
   We successfully established an in vitro three-dimensional culture system using ovarian and uterine endometrial cancer specimens. Our three-dimensional cells (tumor-derived spheroids) showed characteristics of CSCs, including in vivo tumorigenic and differentiation potential. Spheroid cells and the original cancer shared similar mutation profiles.
2. Investigation of a specific regulatory mechanism underlying CSCs proliferation and a novel treatment approach targeting CSCs:
   (1) Ovarian CSCs: Spheroid cells with high expression of aldehyde dehydrogenase (ALDH) activity (ALDH-high cells) showed various CSCs characteristics. Functional analyses using gene knockdown and a chemical inhibitor revealed that ALDH and SOX2 are essential for ovarian CSCs proliferation, whereas SOX2 overexpression inhibits ALDH1A1 and suppresses ovarian CSCs, which suggests feedback regulation of CSCs proliferation; SOX2 and ALDH1A1 form a negative feedback loop.
   (2) Uterine endometrial CSCs: ALDH-high endometrial cancer spheroid cells also showed CSCs potential. ALDH activity inhibition reduces endometrial CSCs propagation. Compared with ALDH-low cells, ALDH-high cells showed greater resistance to paclitaxel, and paclitaxel + ALDH inhibitor combination therapy synergistically inhibited endometrial cancer cell progression. High ALDH levels correlated with glycolytic pathway activation and elevated glucose transporter 1 (GLUT1). GLUT1 blockade inhibited characteristics of CSCs, and GLUT1 inhibition synergized with

paclitaxel to block endometrial cancer proliferation. Further analysis showed that the influence of ALDH on mTORC1 is partially channeled through retinoic acid-induced lactate dehydrogenase A (LDHA) activation in the PI3K-Akt-mTORC1 signaling cascade. LDHA inhibition was found to reduce endometrial cancer cell growth, paralleling the effects of mTORC1 inhibition. Curbing mTORC1 bolstered glucose transport via GLUT1 activation.

Conclusion: We established a stable cultivation method for ovarian and endometrial CSCs and observed that ALDH is essential for CSCs propagation in both cancers. ALDH or glycolysis-related inhibitors suppress cancer propagation based on the specific regulatory mechanism underlying ovarian and endometrial CSCs. ALDH or glycolysis-related inhibitors may be useful as novel treatment agents for gynecologic cancers. Our cultivation method may enable screening of patients with high ALDH levels, who tend to respond to these inhibitors. Therefore, this novel approach may be useful to identify patients who are likely to benefit from the therapy.

Jiheum Paek
(J9)

CURRICULUM VITAE

Jiheum Paek

Division of Gynecologic Oncology, Department of Obstetrics and Gynecology
Ajou University School of Medicine, Republic of Korea

EDUCATION

1995-2001	Hanyang University College of Medicine, Seoul, Korea (Doctor of Medicine)
2012-2017	Yonsei University College of Medicine, Graduate School, Seoul, Korea (Ph.D.)

AFFILAIATION & POSITION

2002-2006	Resident, Obstetrics and Gynecology, Hanyang University Hospital, Seoul, Korea
2009-2011	Clinical Research Assistant Professor, Division of Gynecologic Oncology,Obstetrics and Gynecology, Yonsei University College of medicine, Seoul, Korea
2011-2017	Assistant Professor, Division of Gynecologic Oncology,Obstetrics and Gynecology, Ajou University School of Medicine, Suwon, Korea
2017-2018	Visiting Scholar, Department of Gynecology Oncology and Robotic Surgery,University of Nevada, Reno School of Medicine, USA
2017-present	Associate Professor, Division of Gynecologic Oncology,Obstetrics and Gynecology, Ajou University School of Medicine, Suwon, Korea

Robotic surgery for gynecologic cancers: staying ahead of the curve

The optimal instrumentation and surgical techniques are evolving in the direction of easier minimally invasive surgery (MIS). Since the robotic surgical system in the field of MIS has been introduced, robotic surgery has become a global trend. Robotic surgery has the same advantages as MIS, including less postoperative pain, shorter hospital stays, and shorter recovery times. Moreover, robotic surgery has technical advantages, including improved surgeon dexterity, surgical precision, visualization, and ergonomics. These potential advantages of robotic surgery allow surgeons to perform optimal surgery for treatment in patients with gynecologic cancers as well as benign disease.

In 2018, the results from the Laparoscopic Approach to Cervical Cancer (LACC) trial, a randomized controlled trial, on surgery in early-stage cervical cancer showed that minimally invasive surgery (MIS) had poorer survival outcomes compared to laparotomy. Since then, a great number of regarding studies have been reported and most of them have supported that MIS had poor survival outcome in cervical cancer patients. However, most of the evaluated patients who had MIS had laparoscopic radical hysterectomy, not robotic surgery (RRH). Because robotic surgery, as it is known, has improved surgeons' dexterity and surgical precision, it has been performed popularly for complexed surgical procedures in deep and narrow pelvic cavity instead of laparoscopy or laparotomy. We need to focus on the current trends and controversies of RRH individually. It will provide the future direction of RRH in patients with early-stage cervical cancer.

Endometrial cancer is the most common malignancy of the female reproductive tract in developed countries. Surgery is the most important step in the management of the disease. MIS for endometrial cancer has been shown to offer equivalent survival outcomes with reduced intra- and postoperative morbidity, compared to other surgical approaches. The proportion of endometrial cancers treated through MIS has gradually increased, approaching 90% at high-volume hospitals, which is influenced by the increasing use of robotic surgery. Especially, the implementation of robotic surgery to sentinel lymph node mapping and comprehensive lymph node dissection allow surgeon to perform surgery in endometrial cancer optimally. Although MIS, including robotic surgery, in patients with ovarian cancer has been performed restrictively, the technology of robotic system has potential advantages for primary debulking surgery in early stage disease or metastatectomy in recurrent setting.

In this congress, I will share my opinions regarding the way to stay ahead of the curve for robotic gynecologic cancer surgery with the aim of offering a guide to both experienced and naïve surgeons who plan to learn robotic procedures.

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The 5th J-K-T Young Doctors' Session

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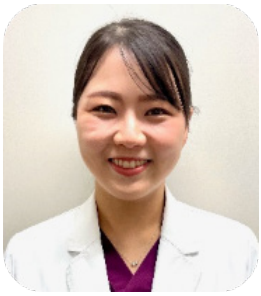
Mariya Kobayashi
(Y1)



A nationwide survey and feasibility study of virtual telehealth visits for perinatal checkups during the COVID-19 pandemic in Japan

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Objective: To explore the recent use of virtual telehealth visits (VV) for perinatal checkups in Japan during the COVID-19 pandemic, define problems related to its use, and to examine the feasibility of VV use hereafter.

Methods: (1) Questionnaire surveys with birthing facilities throughout Japan (January 2021) (2) Questionnaire surveys among pregnant and parturient women attending Osaka and Keio University hospitals (May - July 2021). (3) Comparative study to determine the future feasibility of VV between the women's self- and healthcare provider' s- measurements of blood pressure (BP), fundal height (FH), urine test and fetal heart rates (FHR) (May - July 2021).

Results: (1) Survey responses were received from 1,096/2,214 (49.5%) of all birthing facilities. Only 1.6% of the birthing facilities had already introduced VV, primarily due to healthcare providers not perceiving maternal demands for it. (2) 96 women participated in the surveys. 60.2% of them were anxious about in-person visits, and 36.6% favored the introduction of VV. (3) The Pearson's correlation coefficients between the women's self- and healthcare provider' s- measurements for systolic and diastolic BP and FH were 0.68, 0.58 and 0.87; concordance rates for proteinuria and urinary glucose test were 91.6% and 98.9%, respectively, indicating good feasibility for VV. In contrast, there was poor correlation for fetal heart rate (-0.04) and Bland-Altman analysis revealed 95% limits of agreement ranging from -42.6 to 65.6 bpm, indicating the need for method improvement. Surveys of difficulties encountered in self-measurement indicated that more patients had difficulty with the FH and FHR than with BP and urine test.

Conclusion: In Japan, the introduction of VV for perinatal checkups during the COVID-19 pandemic was limited, mainly due to a failure by healthcare providers to recognize the desires of pregnant and parturient women for VV. VV with some modifications will be feasible for perinatal checkups, which should encourage proactive discussions about VV perinatal checkups for the new era.

Chih-Wei Lin 林智偉
(Y2)

Clinical outcomes of nirmatrelvir-ritonavir use in pregnant women during the Omicron wave of the coronavirus disease 2019 pandemic

Chih-Wei Lin, MD[a]; Yu-Ling Liang, MD[a]; Ming-Ta Chuang, MD[a]; Chun-Han Tseng, MD[a]; Pei-Yin Tsai, MD[a]; Mei-Tsz Su, MD PhD[a*]*

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Objectives: to report the use of paxlovid in pregnant women with COVID-19.

Materials and Methods: Pregnant women attending a tertiary referral hospital in Taiwan from 29 April to 30 July 2022 were enrolled in the study. We compared baseline characteristics, clinical manifestations, and adverse events between paxlovid-treated women and those without paxlovid use. Maternal and neonatal outcomes were analysed in women who delivered during the study period.

Result: A total of 30 paxlovid-treated pregnant women and 55 women without paxlovid use were included in the analysis. The mean duration of COVID-19-associated symptoms in the paxlovid-treated women was shorter than that in the control group (10.10 days versus 15.59 days, p = 0.04). No severe adverse events due to paxlovid use were observed. Dysgeusia and diarrhoea were the most common adverse effects. Thirteen paxlovid-treated and 28 untreated women delivered during the study period. More pregnant women in the paxlovid group who delivered during the study period underwent caesarean delivery compared to the group without antiviral treatment (10 of 13 [76.92%] versus 12 of 28 [42.86%], p = 0.042), and insignificantly more newborns were born small for gestational age in the paxlovid group compared to the control group (3 of 13 [23.08%] versus 1 of 28 [3.57%], p = 0.086).

Conclusion: Our study showed that paxlovid was effective and safe for pregnant women during the Omicron wave of the COVID-19 pandemic. A higher proportion of caesarean delivery rates was observed among paxlovid-treated women. Long-term follow-up of pregnant women exposed to paxlovid and their offspring is needed.

Da Hyun Wang
(Y3)

15 year's experiences of External Cephalic Version Clinic in Korea

Background: The continuous increased in the rates of cesarean section worldwide is concerning. Breech presentation is one of the major indications for cesarean section. External cephalic version (ECV) can reduce cesarean rates by approximately two-thirds in term breech pregnancies.

We have been running the largest ECV clinic in South Korea since 2008, and from 2015, ECV trials were started at outpatient clinic. This study aims to verify the safety of ECV, and to share experiences of running the ECV clinic by managing more than 2,000 patients over 15 years.

Methods: From August 2008 to December 2023, 2115 term breech pregnant women visited our ECV clinic. Ultrasonography and electric fetal monitoring were checked before the ECV to verify fetal position and fetal well-being. Women with gestational age over 36 weeks were candidates for ECV. Candidates were excluded if there was any contraindication to labor or vaginal birth (such as placenta previa, or previous uterine operation) and to ECV (such as non-assuring fetal monitoring, abruptio placenta, pre-eclampsia, congenital fetal anomalies, significant intrauterine growth restriction, oligohydramnios, previous cesarean section≥2, cord neck≥3, tense abdomen and fetus engaged in the pelvis tightly on physical examination).

From January 2015 to until now, we have started ECV clinic at outpatient department (OPD) basis with two track of ECV trials. All available ECV candidate were first allocated to OPD ECV clinic. After once or twice simple soft trials at the ultrasound room, difficult candidates were allocated to delivery room (DR) and favorable cases were done right on the spot. Candidates whom directly allocated to DR after soft trials and failed candidates of OPD ECV trials were tried at DR after preparation with pre-operation labs and I.V. lines.

We analyzed medical records of ECV trials retrospectively, and then, evaluated the characteristics of ECV patients, outcomes and short term complications.

Results: In total 2115 pregnant women visited our ECV clinic, and among them, 1689 had received ECV trials. From 2015 to 2023, in 1397 cases of ECV trials, 626cases were performed at OPD, 302 cases were performed at DR, and 443cases were first performed at OPD and then tried again at DR. The success rate of ECV is 84.8%(531/626), 52.3%(158/302) and 65.4%(290/443) respectively. Total success rate of ECV (including OPD and DR) is 71.4%(979/1371). Complications of ECV trials were mostly temporal fetal bradycardia (38%) and short periods of decreased fetal heart rate variability were also common(30%); however decreased variability disappeared within 10min in most cases. In addition, few patients had experienced vaginal bleeding (0.005%).

Conclusion: From our experiences, outpatient ECV has a considerable success rate with relatively low complication rates, and can be encouraged.

Min Feng 馮敏
(Y4)

Differential changes of placental soluble epoxide hydrolase (sEH) between normal pregnancies and pregnancies complicated by pre-gestational and gestational diabetes mellitus (GDM)

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Objective: To investigate the role of soluble epoxide hydrolase (sEH) in the inflammatory changes in the placenta in pregnancies complicated by diabetes mellitus (DM) or gestational diabetes mellitus (GDM).

Materials and Methods: Placental samples were analyzed from women with normal pregnancies and those with pregnancies complicated by GDM with and without large-for-gestational-age (LGA) infants and pre-gestational DM. Cytotrophoblast cells (JEG3) were cultured under standard, hyperosmotic control, and hyperglycemic conditions. Streptozotocin (STZ)-induced diabetic pregnant rats were used as an animal model.

Results: In human placental samples, the levels of sEH protein/ mRNA and IL-1β were significantly higher in villous tissues from GDM women with LGA infants and those with pre-gestational DM than in women with normal pregnancies. Women with pre-gestational DM also had higher levels of MCP-1 in the villous tissues than normal pregnant women. In JEG3 cells, hyperglycemic conditions significantly increased sEH protein/ mRNA, IL-1β , and IL-6 levels compared to standard and hyperosmotic conditions. In STZ-induced diabetic pregnant rats, the levels of sEH, phosphorylation of p38 and ERK, COX2, IL-1β , IL-6, and MCP-1 were significantly higher in the placentas compared to normal pregnant rats. Administration of AUDA, a specific sEH inhibitor, significantly reversed these changes induced by STZ. Furthermore, STZ-induced diabetic rats treated with AUDA had significantly higher levels of GDNF but lower levels of VEGF compared to those STZ-treated rats but without AUDA administration.

Conclusion: Our results suggest that sEH participates in the inflammatory changes in the human placenta in pregnancies complicated by DM or GDM and that inhibition of sEH may provide a potential therapy for complications related to diabetes during pregnancy.

Yu-Hao Fan 范祐豪
(Y5)

Predictors of diabetic ketoacidosis and associated perinatal mortality in pregnant women with pregestational diabetes mellitus

Yu-Hao Fan[1], MD, Kuo Kung Wang[2] , MD, Chih Ping Chen[2], MD, I Yung Chen[2], MD Liang-Kai Wang[2], MD, and Chen Yu Chen[1] MD, PhD.
High risk pregnancy, Department of Obstetrics and Gynecology, Taipei Mackay Memorial Hospital,

Objective: Diabetic ketoacidosis (DKA) during pregnancy is a life-threatening medical crisis for both mothers and fetuses. The aim of this study was to investigate the predictors of DKA and associated perinatal mortality in pregnant women with pregestational diabetes mellitus (PDM).

Methods: This was a retrospective cohort study of singleton pregnant women with PDM at a tertiary medical center from April 2000 to November 2022. Receiver operating characteristic (ROC) curve analyses were used to evaluate various variables between the mothers with and without DKA, and factors associated with perinatal mortality.

Results: Of the 219 pregnant women with PDM enrolled, 21 were diagnosed with DKA, and 6 (28.6%) fetal deaths were noted. A higher level of HbA1c (8.45 ± 1.92 vs. 6.73 ± 1.01, P = 0.001) and LDL (152.86 ± 55.00 vs. 119.25 ± 36.17, P = 0.012), but a lower level of HDL (38.71 ± 9.84 vs. 57.96 ± 14.47, P < 0.001) were noted in the DKA group than in the non-DKA group. The areas under the ROC curve (AUCs) of HbA1C, LDL, and HDL were 0.79 (95% confidence interval (CI) 0.69-0.89), 0.68 (95% CI 0.53-0.84), and 0.87 (95% CI 0.80-0.94), respectively. Furthermore, a higher level of maternal potassium (5.77 ± 1.17 vs. 4.23 ± 0.55, P = 0.022) and a greater difference of anion gap (22.50 ± 4.46 vs. 15.17 ± 6.48, P = 0.014), but a lower maternal arterial pH (7.07 ± 0.09 vs. 7.20 ± 0.16, P = 0.030) and bicarbonate (3.90 ± 1.67 vs. 9.96 ± 4.48, P = 0.001) were associated with perinatal mortality. The AUCs of maternal potassium, anion gap, pH, and bicarbonate were 0.94 (95% CI 0.84-0.99), 0.87 (95% CI 0.70-0.99), 0.86 (95% CI 0.68-0.99), and 0.93 (95% CI 0.80-0.99), respectively.

Conclusions: HbA1c and lipid profile are valuable predictors of developing DKA in pregnant women with PDM. Severe maternal hyperkalemia and acidosis are associated with perinatal mortality.

Ping-Hsuan Wu 吳品萱
(Y6)

Amniotic fluid stem cell-derived exosomes could show the therapeutic potential in preeclampsia mouse model

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Objective: To investigate the therapeutic potential of amniotic fluid stem cell-derived exosomes (AFSC-exo) in preeclampsia.

Materials and methods: The prevalence of preeclampsia in Taiwan is getting higher and higher over these years. It can cause organ failure with high blood pressure and proteinuria in the mother. It can also cause the fetus to grow retarded in the uterus, premature delivery or even death. We established the preeclampsia model and continuous subcutaneously inject nitric oxide producing enzyme L-NAME starting on the 9th day of pregnancy to induce hypertension and proteinuria in mice. After confirming the induced preeclampsia, the mother mice were injected intravenously with 1*10^10 amniotic fluid stem cell-derived exosomes on the 12th and 14th day of pregnancy.

Results: There are 8 pregnant mice were sacrificed. AFSC-exo were all positive for CD9, CD63 and TSG 101 by Western blot. The morphology studies showed the evidence in nanoparticle tracking analysis and transmission electron microscope. To observe the birth outcome results, lower weight of the fetus, lower weight of the placenta, higher preterm birth rate, and higher maternal mortality were found in the preeclampsia control group. The treatment group improved the destruction of placental endothelial cells and promote blood vessel development proved by placenta and kidney immunohistochemistry studies.

Conclusion: This result could be used in regenerative applications of preeclampsia-related diseases in the future.

Yuya Saito
(Y7)

Use of the Ex-Vivo uterine Environment (EVE) system for Surgery in the Fetal Sheep

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[5] National University of Singapore Department of Obstetrics and Gynecology, Singapore.

Introduction: Early treatment of fetal congenital or progressive morphological diseases can improve long-term outcomes. Several fetal therapies (FTs) for certain diseases are reported. However, most of them are not radical treatments and always with off-target effects. This study aimed to compare surgical outcomes of fetuses maintained on the EVE system with a standard intrauterine approach.

Methods: Two groups of five animals were randomized to either, an EVE surgery group or an intrauterine (IU) surgery group. In the EVE group, fetal sheep were delivered at 104 days gestation age (GA), connected to the EVE system, and then had open abdominal surgery with a 3 cm wound two days later. Fetuses were then maintained on EVE therapy for 2 days. For the IU group, animals were underwent the same FT as the EVE group at 106d GA, and was remained in utero for a further 2 days. Fetuses in both groups were delivered at 108d GA. Fetal brain, tissues were immunostained with Oligo2, IBF1, and GFAP antibodies for histopathological evaluation of brain white matter injury. Wound healing was assessed with α SMA antibody, and injury healing was compared histopathologically. Hematological markers were used to assess organ injury. Group differences were tested with t-test with $p<0.05$ deemed significant.

Results: All animals completed their protocols. There were no significant differences in fetal sex, birth, or brain weight between the groups. There were significant differences in pH, base excess, lactate and HCO_3^- at 0 hours and pH, base excess, and HCO_3^- between the two groups at 48 hours. Particularly, acidosis was observed at both 0h and 48h in only the IU group. In brain histopathology, there were no significant differences in the number of cells positive for immunostaining with Oligo2, IBA1, and GFAP antibodies in the level of the anterior basal ganglia and mamillary body after euthanasia. In the wound of the skin, α SMA was observed to be expressed in both groups. The wounds were completely dehiscence in 4 animals of the EVE group, and only 1 animal was found to be partially fused. On the other hand, in the IU group, all 5 animals had only partial dehiscence and healing was observed. Wound healing was a better impression in the IU group, however, there was no statistically significant difference in dehiscence between the two groups (p= 0.06).

Conclusion: We report the use of an EVE system to undertake abdominal surgery on preterm fetal sheep at 106d GA. Compared to the IU group, the EVE group appeared to perform better with no acidosis, but wound healing appeared to be delayed. Although a sizable amount of work remains to be done, these data demonstrate the potential utility of an EVE system to facilitate fetal surgical therapy in early gestation pregnancies or where existing approaches are unavailable.

Rie Seyama
(Y8)

The effective method of detecting pathogenic variants for exome negative cases in Cornelia de Lange Syndrome

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Recent studies suggest that transcript isoforms significantly overlap (approximately 60%) between brain tissue and Epstein– Barr virus-transformed lymphoblastoid cell lines (LCLs). Interestingly, 14 cohesin-related genes represented as NIPBL, SMC1A, or SMC3 with variants that cause Cornelia de Lange Syndrome (CdLS) (MIMID#122470), a rare neurodevelopmental disorder with dysmorphic features, are highly expressed in the brain and LCLs. Among 66 CdLS families, we previously performed exome sequencing (ES) and found either pathogenic single nucleotide variants or copy number variants in 46 families (46/66=69.7%), but not in the other 20 families. In this context, we first performed RNA-seq of LCLs from 22 solved (with pathogenic variants) and 19 unsolved (with no confirmed variants) CdLS cases. First, an RNA-seq pipeline was developed using 22 solved CdLS cases and 105 downloaded healthy controls from the Genotype-Tissue Expression (GTEx) Biobank with two different methods: 1) short variant analysis (for single-nucleotide and indel variants) using GATK v4 Broadinstitute pipeline (v.4.0.4.0) and 2) aberrant splicing detection analysis using LeafcutterMD. The efficiency of this pipeline was confirmed using 22 positive control. A total of 19 (86.4%, 19/22) variants among 22 positive controls were confirmed by this RNA-seq. Then, 19 unsolved cases were subsequently applied to our pipeline, and four pathogenic variants in NIPBL (one inframe deletion and three intronic variants) were newly identified. Two of three intronic variants were located at Alu elements in deep-intronic regions, creating cryptic exons. Furthermore, these variants were strongly assumed to change the RNA binding proteins, which affect those splicing events. In summary, by developing the RNA-seq pipeline, four pathogenic variants were newly identified by RNA-seq of 19 CdLS cases that were unsolved using ES analysis. Therefore, the total diagnostic rate increased from 69.7% (46/66) to 75.8% (50/66). The RNA-seq with LCLs was a useful technique in determining hidden variants in ES-negative CdLS cases and is applicable to other Mendelian disorders.

Eun Jin Choi
(Y9)

The impact of maternal hepatitis C virus infection on the congenital malformations

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Objectives: To investigate the effect of maternal hepatitis C virus (HCV) infection on the congenital malformations.

Methods: This nationwide population-based study included women who had singleton pregnancies and delivered birth between 2015 and 2021. The definitions of infection with HCV, as well as congenital malformations, were based on the International Classification of Diseases, 10th revision. To adjust and balance the baseline characteristics, multivariable logistic regression and propensity score matching analyses were performed, respectively, between mothers who were positive for HCV and those who were negative for HCV.

Results: This study included a total of 1,800,057 pregnant women, of whom 1,492 had HCV. Among HCV-positive pregnant women, 200 (13.4%) delivered neonates with congenital malformations. In multivariable analysis, HCV infection was independently associated with an increased risk of congenital malformations of the circulatory system (adjusted odds ratio [aOR], 1.493; 95% confidence interval [CI], 1.180– 1.889; P=0.0008) after adjusting for maternal age, nulliparity, pre-gestational hypertension, pre-gestational diabetes mellitus, and neonatal sex. In PSM analysis, HCV-positive mother (aOR, 1.509; 95% CI, 1.148-1.984; P=0.0032) had a higher risk of neonatal circulatory congenital malformations.

Conclusions: The risk of congenital malformations of the circulatory system was significantly higher in the neonates born to the HCV-positive pregnant women.

Keywords: maternal hepatitis C virus; adverse pregnancy outcomes; congenital malformations

Li-Shan Chen **陳立珊**
(Y10)

Carrier screening for present disease prevalence and recessive genetic disorder in Taiwanese population

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Carrier screening is important to people have a higher prevalence of severe recessive or X-linked genetic conditions. This study is aimed that the frequency and uncertain nature of genetic variants was identified in Taiwanese population, providing individuals with information at risk of inherited diseases and their heritability to newborns. A total of 480 subjects receiving genetic counseling with no family history of inherited disorders were recruited into a cohort from 2018 to 2022. Next-generation sequencing (NGS) panel for autosomal dominant (AD), autosomal recessive (AR) and X-linked diseases was sequenced to assess disease prevalence and carrier frequency for the targeted diseases. Publicly available NGS datasets were analyzed following a tier-based system and ACMG recommendation. 5.3% of subjects showed the presence of variants for genetic disorder, and 2.3% of them were determined with AD. 14 of subjects with pathogenic variants were carriers for AR. The inherited genes were LDLR for AD disorders and AR disorders included GAA and ATP7B. 21.6% of subjects had highest carrier frequency of GJB2 gene. 0.5% of subjects had highest frequency of GJB6 for X-linked condition. In conclusions, the variants in LDLR, GAA and ATP7B genes were identified in Taiwanese population, indicating individuals had higher risk of Pompe disease, Wilson' disease and familial hypercholesterolemia. Taiwanese individuals carrying GJB2 and GJB6 had the considerable risk of hearing loss passing to their offspring.

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Yamato Fukui
(Y11)

The role of uterine EZH2-PRC2-H3K27me3 axisin embryo implantation

Yamato Fukui, Yasushi Hirota, Chihiro Ishizawa, Rei Iida, Tetsuaki Kaku, Tomoyuki Hirata, Takehiro Hiraoka, Shun Akaeda, Mitsunori MatsuoandYutaka Osuga
Department of Obstetrics and Gynecology, the University of Tokyo Hospital, Japan.

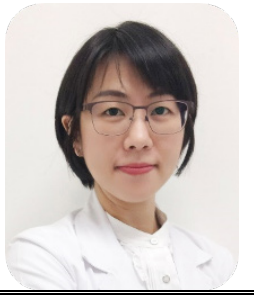
Objective: Trimethylation on lysine 27 of histone H3 (H3K27me3) is a major epigenetic modification to silence gene expressionsandpolycombrepressive complex 2 (PRC2) induces H3K27me3. Enhancer of zeste homolog 2(Ezh2) is a core molecule in PRC2 to exertH3K27 methylations (Ezh2).Our recent RNA-seq analysis of mouse endometria in peri-implantation period showedthat H3K27me3-targeting genes are highly enriched indifferentially expressed genes during implantation transition, indicatingthe possible roles of PRC2-H3K27me3 in the process of successful pregnancy. This studyaimed to clarifytheunappreciated roles of Ezh2-PRC2-H3K27me3 axisin the uterus during the peri-implantation period by analyzing human and mouse endometrial tissues.

Methods: Human peri-implantation endometrium was collectedfrom patients with recurrent implantation failure (RIF)and their fertile controls. RNA-seq analyses of the human endometria were performed between the two groups. Mice with deletion of Ezh2in the whole uterus (UKO mice) and in the epithelium (EKO mice) were generated. Reproductive phenotypes of UKO and EKO mice were analyzed in detail.

Results: RNA-seq analyses of the human endometria revealed thatEZH2 and PRC2-H3K27me3-targeting genes are more dysregulated in the human endometrium of patients with RIF compared to the fertile controls. UKO mice exhibited severe subfertility, whereas fertility of EKO mice was normal, suggesting that stromal Ezh2 hasa significant impact onfemale fertility. Tissue analyses of peri-implantation uteri showed that UKO mice have embryo invasion defects. RNA-seq and ChIP-seq analyses revealed that H3K27me3-related dynamic gene silencing is canceledby Ezh2 deletion, and the gene expression of cell-cycle regulators is dysregulated in Ezh2-deleted uteri. Uterine Ezh2 deficiency also caused the sustained proliferation of the epithelium and reduced terminal differentiation of the stroma, suggesting epithelial defects and stromal differentiation in the Ezh2-deficient uterus.

Conclusion: Our findings indicate that the EZH2-PRC2-H3K27me3 axis is critical to preparing the endometrium for the blastocyst invasion into the stroma in mice and humans.

Caroline Lim **林嘉玲**
(Y12)



To assessment of chronic endometritis in infertile women with prior implantation failure

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3Happy Fertility Center, Changhua, Taiwan.

Objective: To investigate the association of chronic endometritis (CE) in infertile patients with or without prior implantation failure (IF) by assessment of CD138, a plasma cell marker.

Methods: We prospectively enrolled a total of 191 CE treatment cycles (involving 152 patients) from January 2021 to February 2022 at Changhua Christian Hospital. After excluding 25 treatment CE cycles with non-compliance or incomplete data, the study ultimately included 166 CE treatment cycles. These cycles were further categorized based on patients' age, previous history of implantation failure, and endometrial sampling pathology report.

Result: Among 166 CE treatment cycles, 56.2% (77/137) was diagnosed as chronic endometritis in prior-implantation failure, and 62.1% (18/29) was diagnosed without prior implantation failure history. The prevalence of CE was higher in cycles with non-prior IF than in those without in the group under 38 years [73.1% (19/26) vs.53.2% (50/94), P=.69]. The cured chronic endometritis in prior-IF and non-IF groups were comparable to those in the non-CE groups [Prior-IF: implantation rate (50% vs 45%, P=0.56); Non-prior IF: implantation rate (47.4% vs 27.3%, P=0.28)]. The pregnancy outcomes were also comparable to those in the non-CE group if transferring with good quality embryo. Furthermore, there was a 5% reduction in the miscarriage rate in the Cured CE group compared to the CE-negative group; however, no statistically significant difference was found between these two groups.

Conclusion: Chronic endometritis is significantly associated with prior implantation failure in women under 38 years old, but not in aged 38 or older. Importantly, CE with antibiotic treatment significantly improves pregnancy outcomes, especially in patients with a history of prior IF. The evaluation of CE in IF remains inconclusive and requires further investigation.

Isabel Hsu 許嘉樺
(Y13)

The Mid Luteal Progesterone Level and Ratio of Progesterone and Estradiol is Predictive of Pregnancy Outcome in Frozen Embryo Transfer Cycles

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[2]TUBE Fertility Clinic, Tainan, Taiwan

Objective: To investigate the serum P4 level and P4/E2 ratio at mid luteal phase in the prediction of pregnancy outcome in frozen embryo transfer (FET) cycles.

Materials and Methods: This is a retrospective study including 308 women aged 32 to 42 years old undergoing frozen embryo transfer in artificially prepared endometrium with hormone replacement therapy (FET-HRT) cycles conducted between January 01, 2019 and December 31, 2021. The serum E2 and P4 levels at Day 10 of the luteal phase (5 days after blastocyst transfer) and serum P4 level on the day of the pregnancy blood test (12 days after blastocyst transfer) were investigated. Patients with donated oocytes, history of recurrent pregnancy loss, uterine anomalies including endometrial polyps and intrauterine adhesions, untreated hydrosalpinx, thin endometrium, <7mm, and transfer of more than one day 5 blastocyst were excluded. The FET-HRT cycles consisted of oral estradiol valerate with a total daily dosage of 4 to 8mg, taken twice a day starting on day 3 of the cycle, and vaginal micronized progesterone with a total daily dosage of 800mg, administered twice a day starting 5 days before ET. Statistical analysis was conducted by performing logistic regression and t-tests with SPSS. Optimal cutoff value of serum P4 level and P4/E2 ratio in the mid luteal phase for predicting pregnancy outcome was identified with receiver operating characteristic (ROC) curve assessment.

Result: The clinical pregnancy rate was 43.8%, live birth rate was 26.6%, and miscarriage rate was 16.9%. The mid luteal serum P4 level is significantly correlated with pregnancy outcome. According to the ROC curve with AUC of 0.63, the optimal cutoff value of D10 serum P4 level was 16.8 ng/mL for prediction of pregnancy in FET-HRT cycles. Moreover, mid luteal serum P4/E2 ratio is also significantly correlated with pregnancy outcome in FET-HRT cycles. The optimal cutoff value of D10 serum P4/E2 ratio was 0.08 for prediction of pregnancy in FET-HRT cycles, as shown by the ROC curve with AUC of 0.61.

Conclusion: Serum P4 level and P4/E2 ratio in the mid luteal phase are predictive of pregnancy outcome in FET-HRT cycles. Further studies should be conducted to investigate whether or not adding progesterone supplementation can improve pregnancy outcome when mid luteal serum P4 level and P4/E2 ratio are below the optimal cutoff values.

Ming-Ju Wang 王敏如
(Y14)

Diminished ovarian reserve does not impact oocyte and embryo performance in women ≤ 40 years old

Ming-Ju Wang, M.D.[1], Jia-Hwa Yang, PhD.[5], Robert Kuo-Kuang Lee, M.D.[1,4], Ming-Huei Lin, M.D.[1,2,3,4], Kuan-Sheng Lee, M.D.[1,3]

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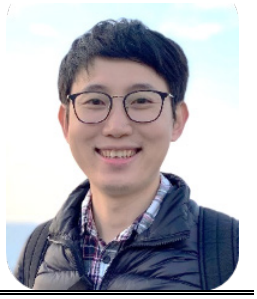
Objective: To retrospectively investigate whether diminished ovarian reserve (DOR), as measured by serum anti-müllerian hormone (AMH), impacts oocyte quality and embryo performance in the cleavage or blastocyst stage or not.

Materials and Methods: We retrospectively reviewed 1707 women aged ≤ 40 years who underwent 1862 IVF/ICSI cycles and divided patients into two groups: DOR included the patients with AMH levels lower than 1.2 ng/ml, and non-DOR included the patients with AMH values above ≥1.2 ng/ml. Ovarian stimulation response till fertilization condition and fresh transfer outcomes were compared between the two groups.

Result: The cancellation rate was significantly higher in the DOR group than in the non-DOR group (12.6% vs 2.2%, $p < 0.001$). The MII oocyte retrieval and available embryos were significantly higher in the non-DOR group than in the DOR group. There were no significant differences in the implantation rates (IR), miscarriage rate (MR) and live birth rate (LBR) in cleavage transfer (IR:20.90% vs 21.59%, p =0.787; MR:18.8% vs 22.3%, p =0.543; LBR:29.3% vs 30.9%, p =0.686) and blastocyst transfer (IR:43.92% vs 44.09%, p =0.819; MR:6.7% vs 15.8%, p =0.486; LBR:48.1% vs 45.1%, p =0.758) between the two groups.

Conclusion: Ovarian reserve, measured by circulating AMH, is correlated with cycle cancellation rate and predicts the recovery of oocytes and available embryos after conventional ovarian hyperstimulation but not oocyte or embryo quality.

Chi-Ting Lai **賴祈廷**
(Y15)



The early evolution of gut microbiome in infants born after in vitro fertilization and its association with concurrent oral microbiome

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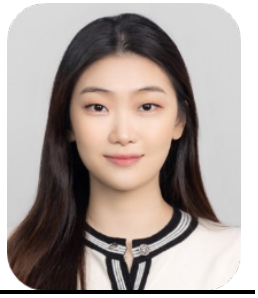
Objective: To investigate the evolution of gut microbiome and its association with concurrent oral microbiome in early infantile life of babies born after in vitro fertilization.

Materials and Methods: A longitudinal cohort study was conducted with a total of 15 babies enrolled during 2019~2022 in a single medical center. Stool samples were collected consecutively in the first five days after birth and oral specimens from saliva and buccal mucosa were obtained within one week after delivery. All three samples continued acquisition at the end of 1st, 2nd, 4th and 6th months. The microbiota of stool, saliva and buccal mucosa were investigated by 16S rRNA gene profiling. Alpha diversity was calculated for comparison of microbial complexity at different time points and from various sampling sites. The abundance trends of the shared genera between oral and gut ecosystems were analyzed to investigate their correlation.

Result: Enterobacteriaceae rapidly surpassed other gut pioneers (Bacteroides, Prevotella and Ruminococcaeae) and sustainably dominated this ecosystem through the time. Meanwhile, Bifidobacterium gradually rose in abundance since the 1st month after delivery. The compositions of salivary and buccal mucosal microbiome were similar in majority. Streptococcus were dominant among oral species at all times, while Veillonella and Gemellaceae were late colonizers. There were rises in the alpha diversity of stool and salivary microbiota as infants' age increased, particularly after weaning commenced, but that was not apparent in buccal mucosa. The alpha diversity of stool microbiota before weaning was closer to that of buccal mucosa but lower than saliva. Most of the gut and oral microbiota evolved independently, whereas the oral Rothia, Prevotella and Veillonella were involved in the development of gut microbiota as seeding species.

Conclusion: This study offered a piece of knowledge on the distinctive constitution and evolution of gut and oral microbiome as well as their mutual correlation in different postpartum stages. Besides, the demonstration of oral seeding species affecting gut microbiota might provide new therapeutic strategies in treating early life intestinal dysbiosis.

Jaekyung Lee
(Y16)



Catheter-Directed Sclerotherapy for Endometrioma; studies over the years and future prospectives

Objective: To review studies conducted for catheter-directed sclerotherapy(CDS) on patients with endometrioma and future prospectives.

Methods: Retrospective, observational study. Electronic medical records and images of patients with endometrioma who underwent CDS from August 2014 to December 2022 at Severance Hospital were obtained. Cyst diameter, laterality, AMH level, and CA- 125 level before and after 1 month, 6 months, 1 year, 2 years, and 3 years of sclerotherapy were obtained.

Results: Early study, with 14 participants that was published in 2018, evaluated the short-term effect of CDS revealed the decrease in mean endometrioma size, pain symptom, CA-125 level with no recurrence, complication and change in serum AMH level. In 2020, a study compared 51 patients who had laparoscopic ovarian cyst enucleation for endometrioma and 20 patients who had CDS for endometrioma. The hospital stay was shorter with CDS than with surgery. There was no significant difference in serum AMH levels before and after CDS, but there was a significant decrease in serum AMH in the surgery. Thus, we hypothesized that CDS for endometrioma would be beneficial for patients with endometrioma who are at high risk for ovarian damage when laparoscopic surgery is performed. These indications would include patients with already decreased ovarian reserve before treatment, patients with recurrent endometrioma who had prior surgery, and patients with large sized endometrioma. In 2022, we published an article that analyzed 14 patients with AMH level less than 2.0ng/mL, who are at risk for decreased ovarian reserve, who underwent CDS for endometrioma. The mean cyst size on ultrasonography and serum CA-125 levels decreased 6 months after CDS. All patients reported a decreased visual analog scale score for dysmenorrhea. However, the difference in serum AMH levels before and after CDS was statistically insignificant. Also, we evaluated the effect of CDS in patients with recurrent endometrioma and compared with patients with primary endometrioma. There was no significant difference in delta value of AMH after sclerotherapy in both groups at each follow- up period. Also, this result was consistent when stratified by laterality, preprocedural AMH level, and initial size of endometrioma. No case of recurrence was reported in both groups.

Conclusion: CDS for endometrioma is efficacious in relieving symptoms related to endometrioma, and CA-125 level without having deleterious effect on ovarian reserve. It is also proven its safety in patients who are at high risk for ovarian damage when laparoscopic surgery is performed, such as patients with already decreased ovarian reserve before treatment, patients with recurrent endometrioma who had prior surgery. Current studies are in progress with focus on its effect in patients with large sized endometrioma and prospective patient group.

Gyul Jung
(Y17)

Advantages of vNOTES (vaginal Natural Orifice Transluminal Endoscopic Surgery) gynecologic procedure using da Vinci SP

Advancements in gynecologic surgery over the past few decades have transitioned from conventional open procedures to minimally invasive techniques such as laparoscopy, including single-port approaches. vNOTES (vaginal Natural Orifice Transluminal Endoscopic Surgery) represents an innovative and novel surgical technique utilizing a single incision through the vagina, resulting in a scar-less abdomen. This approach is described as versatile, facilitating various gynecologic procedures, including benign myoma/adenomyosis surgery, hysterectomy, ovarian/tubal surgery (oophorectomy, cystectomy), endometrial and uterine cancer surgery, as well as sentinel lymph node surgery for endometrial cancer. The da Vinci SP (dvSP) robotic surgical system emerges as a key player in enhancing vNOTES procedures. In comparison to the da Vinci Xi, dvSP is designed for a single incision, featuring three robotic arms and one camera. This design allows for a more focused and streamlined approach, providing a better view of the camera. The dvSP demonstrates effectiveness in targeting smaller and deeper areas within the abdominal cavity, supported by stronger arm power. This capability is pivotal for achieving precision in gynecologic surgeries, particularly when accessing specific anatomical structures requires advanced maneuverability. This abstract highlights some advantages of vNOTES surgery using dvSP, showcasing its impact on the field of gynecologic surgery. A video demonstration accompanies this abstract, offering a visual insight into the demonstrated advantages.

Yeong Eun Choi
(Y18)

Spatial Transcriptomic for Investigating Tumor Budding and Immune Microenvironment Dynamics in Uterine Cervical Cancer

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Background: Tumor budding (TB), characterized by small clusters of tumor cells, is recognized as an adverse histomorphological biomarker in uterine cervical cancer. While TB likely exhibits epithelial-mesenchymal transition traits, the biological characteristics of TB within the tumor-immune microenvironment (TIME) remain unexplored. This study aimed to investigate the biological properties of TB and its interaction with the coordinated immune cells in cervical cancer.

Method: We employed GeoMx digital spatial profiling (nanostring) on tissue microarrays containing 34 cases of uterine cervical cancer to analyze transcriptomic expression within TB histology in the context of the TIME. Of these cases, 24 demonstrated high TB (≥4 peripheral TB/10HPFs), while 10 had low TB. To specifically assess transcriptional changes related to the TIME, we examined cytokeratin-positive (PanCK+) and immune cell-positive (CD45+ and CD68+) compartments within each region of interest (ROI) separately.

Results: A set of significantly intersecting genes was selected. As an overview, we visually represented 44 genes in unsupervised clustered heatmaps per compartment, TB status, and disease progression. We identified a subset of distinct genes through differential gene expression linked to disease recurrences, persistently exhibiting their distinctive biological characteristics even in cases with low TB. Pathway enrichment analysis was conducted using Wikipathways databases. Enrichment scores revealed coordinated transcriptomic alterations in the epithelial and immune cell segments of most TB histology AOIs from patients with disease recurrence. These alterations included the activation and regulation of the complement cascade, interleukin-4 and interleukin-13 signaling pathways, keratin dysregulation, and lipid metabolism. Specific gene sets exhibited distinct changes and coordination across TB histology and TIME contexts, suggesting their potential as significant biomarkers for predicting disease recurrence.

Conclusion: Through the application of DSP, we conducted a comprehensive multi-region transcriptomic profiling to unravel the biological properties and contributions within specialized tumor budding histology regions within the TIME of cervical cancer.

Kentaro Ishida
(Y19)

A Retrospective Analysis of the Efficacy of Bevacizumab Maintenance on the Histopathological Mesenchymal Subtype of High-grade Serous Ovarian Carcinoma

Kentaro Ishida[1,2], Ryusuke Murakami[2], Akihiko Ueda[2], Taito Miyamoto[2,4], Shunsuke Kawahara[2], Kaoru Abiko[2,3], Ken Yamaguchi[2], Junzo Hamanishi[2], Noriomi Matsumura[2,5], Masaki Mandai[2]

[1] Japanese Red Cross Otsu Hospital Department of Obstetrics and Gynecology, [2] Kyoto University Hospital Department of Gynecology and Obstetrics, [3] Kyoto Medical Center Department of Obstetrics and Gynecology, [4] The Wistar Institute Immunology, Metastasis & Microenvironment Program, [5] Kindai University Hospital Department of Obstetrics and Gynecology

Objective: High-grade serous ovarian carcinoma (HGSC) is classified into four transcriptome subtypes (mesenchymal, immunoreactive, proliferative, and differentiated) by the Cancer Genome Atlas project. Recently, we have developed a new histopathological classification for HGSC, which corresponds to the transcriptome subtypes. These are Mesenchymal Transition (MT), Immune Reactive (IR), Solid and Proliferative (SP), and Papillo-Glandular (PG) types. Although bevacizumab (Bev) extends the prognosis in high-risk patients, its impact on these specific histopathological subtypes has not been explored. Therefore, this study aims to evaluate the prognostic efficacy of Bev maintenance therapy, specifically in the MT and mesenchymal subtypes.

Methods: We retrospectively reviewed medical records for advanced HGSC patients treated at our hospital from 2012 to 2017. These patients were divided into two groups: those who received standard chemotherapy with or without Bev. The histopathological classification was performed using hematoxylin and eosin-stained slides of HGSC. The overall survival (OS) and progression-free survival (PFS) were evaluated to compare the efficacy of standard chemotherapy with or without Bev in the MT or non-MT subtypes. Additionally, we analyzed the ICON7 dataset (GSE140082), which includes gene expression subtype annotations, to determine Bev's survival impact across these subtypes.

Results: Of the 50 patients included, 25 were in the MT and 25 in the non-MT subtype. The MT subtype showed a longer OS in the Bev group (n=9) than in the standard chemotherapy group (n=16) (p=0.049; median, not reached(NR) vs 34 months; HR=0.058; 95% CI=0.0038-0.8771). However, no significant differences in OS were observed in the non-MT subtype (p=0.12; median, 41 months vs NR; HR=5.389; 95% CI=0.49– 59.5). In the GSE140082 dataset, among 43 advanced HGSC patients with the mesenchymal subtype, a better OS was noted in those treated with Bev (n=20) compared to standard therapy (n=23) (p=0.037; median, NR vs 26.4 months; HR=0.23; 95% CI=0.059– 0.859). In 149 patients with non-mesenchymal patients, bev (n=77) also extended OS (p=0.02; median, NR vs 34 months; HR=0.52; 95% CI=0.275– 0.981) than standard therapy (n=72), suggesting that bev had more efficacy on the mesenchymal subtype in terms of lower HR.

Conclusion: Bev prolonged the survival of high-risk patients with the MT and mesenchymal subtype.

Shao-Jing Wang 王韶靖
(Y20)

Outcomes of "sandwich" chemoradiotherapy compared with chemotherapy alone for the adjuvant treatment of FIGO stage III endometrial cancer

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Objective: To analyze and compare outcomes of adjuvant chemoradiotherapy in patients with International Federation of Gynecology and Obstetrics (FIGO) stage III endometrial cancer (EC) patients using the "Sandwich" sequence and chemotherapy (CT) alone.

Methods: From, 2005 to, 2019, we retrospectively reviewed 80 patients with FIGO stage III EC who received treatment at our institute. We analyzed 66 patients who had undergone complete surgical staging followed by adjuvant treatment with sandwich chemoradiotherapy (39 patients) and CT alone (27 patients). The 5-year overall survival (OS), progression-free survival (PFS), and disease-specific survival (DSS) were calculated using the Kaplan– Meier method. Additional prognostic factors were analyzed using Cox proportional hazards regression.

Results: Herein, the analysis was conducted using 66 patients with a median follow-up period of 50 and 85 months in the sandwich and CT-alone arms. Comparing the sandwich sequence and CT-alone groups, the 5-year OS and PFS were 87% vs. 70% (p = 0.097) and 77% vs. 65% (p = 0.209), respectively. The sandwich therapy conferred an improved 5-year DSS (92% vs. 70%, p = 0.041) and a lower local recurrence rate (0% vs. 11%, p = 0.031). In multivariable analyses, grade 3 histology and deep myometrial invasion were independent risk factors for 5-year OS and DSS. The sandwich sequence was a positive predictor for 5-year DSS (hazard ratio [HR] = 0.23, p = 0.029). The sandwich arm demonstrated higher acute hematologic toxicity than the CT-alone arm. CT dose delay/reduction and treatment completion rates were similar in both groups.

Conclusion: For patients with stage III EC, postoperative sandwich chemoradiotherapy appears to offer a superior 5-year DSS and local control with tolerable toxicity when compared with CT alone.

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【*Y21-30*】

TAOG
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I-Chieh Sung 宋怡潔
(Y21)

Relationship between Q-Tip Test and Urethral Hypermobility on Perineal Ultrasound

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Objective: To assess the correlation between the overall rest– stress distance measured by transperineal ultrasound (TPUS) and Q-tip test angle in women with urodynamic stress incontinence (USI), and determine a cut-off value of rest– stress distance for predicting urethral hypermobility (UH).

Methods: Women with USI scheduled for mid-urethral sling surgery were retrospectively recruited. UH was defined as a Q-tip angle more than or equal to 30 degrees. Ultrasonic measurement of the overall rest– stress distance was defined as the linear distance of bladder-neck position change from resting status to maximal strain.

Results: Among the 132 enrolled women, the Pearson correlation coefficient between the overall rest– stress distance in TPUS and Q-tip test angle was 0.9104 (95% CI, 0.8758– 0.9357, $p < 0.001$). In receiver-operating characteristic-curve analysis, a rest– stress distance of more than 13.3 mm was an optimal cut-off value to predict UH (sensitivity = 76.47%, specificity = 93.3%; area = 0.937, 95% confidence interval: 0.881– 0.972).

Conclusions: The overall rest– stress distance in TPUS correlated well with the Q-tip test angle, indicating that it can be an alternative method for the assessment of USI. A rest– stress distance of more than 13.3 mm was an optimal cut-off value to predict UH in women with USI.

Yi-Ting Chen **陳怡婷**
(Y22)

Management with bladder oversensitivity with platelet-rich-plasma(PRP) during pelvic reconstruction

Yi-Ting, Chen[1], Ting-Chen, Chang [1,2]
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OBJECTIVE: To assess the effectiveness of bladder injection with platelet-rich-plasma in bladder oversensitivity during pelvic reconstruction.

METHODS: We reviewed charts of all patients who underwent POP or USI surgery by Dr. Ting-Chen, Chang in our institution between January 2018 and December 2023, who had also diagnosed with moderate to severe overactive bladder(OABSS ≥ 6). All of the patients received bladder injection with PRP during operation.

We included patients who diagnosed with bladder oversensitivity (strong desire ≤ 250ml in pre-operative urodynamic study). All of the patient received PRP bladder injection during operation. Post-operative urodynamic study was arranged in 2 months.

RESULTS: A total of 46 patients were included. All of them had questionnaires included OABSS, UDI-6, IIQ7 before and after treatment. Strong desire increased significantly after intra-operative bladder injection with PRP(p-value < 0.001). Questionnaires revealed OABSS-1, OABSS-2, OABSS-T and UDI-6-2 score decreased after bladder injection with PRP.

CONCLUSION: Intra-operative bladder injection with platelet-rich-plasma during pelvic reconstruction seemed to have benefits in patients with bladder oversensitivity.

Tzu-Ting Chen **陳姿廷**
(Y23)

Skin sympathetic nerve activity as a potential biomarker for overactive bladder

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[2]Department of Urology, Kaohsiung Medical University Hospital, Kaohsiung Medical University, Kaohsiung, Taiwan

Objective: Use neuECG, a novel method of recording skin electrical signals, to assess autonomic nervous function in healthy controls and patients with OAB before and after treatment.

Materials and Methods: The prospective sample included 52 participants: 23 patients newly diagnosed with OAB and 29 controls. Autonomic function was assessed in all participants in the morning using neuECG, which analyzed the average skin sympathetic nerve activity (aSKNA) and electrocardiogram simultaneously. All patients with OAB were administered antimuscarinics; urodynamic parameters were assessed before treatments; autonomic and bladder functions using validated questionnaires for OAB symptoms were evaluated before and after OAB treatment.

Result: Patients with OAB had significantly higher baseline aSKNA(p=0.003), lower standard deviation of the normal-to- normal beat intervals, lower root mean square of the successive differences, lower high-frequency, and higher low-frequency than did controls. Baseline aSKNA had the highest value in predicting OAB (AUROC = 0.783, p < 0.001). The aSKNA was negatively correlated with first desire and normal desire in urodynamic studies (both p=0.025) and was significantly decreased after treatment at rest, stress, and recovery phases, as compared to those before treatment (p = 0.046, 0.017, and 0.017, respectively).

Conclusion: Sympathetic activity increased significantly in patients with OAB compared to that in healthy controls, and decreased significantly post-treatment. Higher aSKNA is associated with decreased bladder volume at which voiding is desired. SKNA may be a potential biomarker for diagnosing OAB.

Chieh-Yu Chang 張介禹
(Y24)

Effect of High-Intensity Focused Electromagnetic (HIFEM) technology for the treatment of Female Stress Urinary Incontinence

Cheng-Yu Long[1], MD, PhD., Yi-yin Liu[2], MD, Zi-Xi Loo[1], MD, Chien-Lin Yeh[1], MD, Chieh-Yu Chang[1], MD and Kun-Ling Lin[1], MD.
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[2] Department of Obstetrics and Gynecology, Kaohsiung Municipal Hsiao-Kang Hospital, Kaohsiung Medical University, Kaohsiung, Taiwan

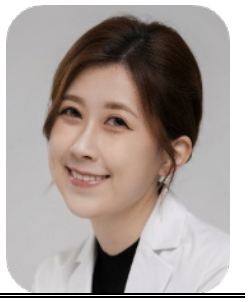
Objective: The aim of the study was to assess the effect of High-Intensity Focused Electromagnetic (HIFEM) technology in the treatment of female stress urinary incontinence (SUI).

Materials and Method: 20 women with SUI were delivered a treatment course with HIFEM technology. Patients attended 6 therapies scheduled twice a week. Validated questionnaires were assessed, including OABSS, UDI-6, IIQ-7, ICI-Q, and Female Sexual Function Index (FSFI). Data was collected pre-, post-treatment, at 3- and 6-month follow-up visits. Scores of questionnaires were calculated and statistically evaluated through t-test.

Results: Course of the treatment with the HIFEM technology significantly improved QoL of all women. This was demonstrated as 75% level of improvement in degree of incontinence according to the ICI-Q scores during 3-month follow-up. The average total FSFI scores increased significantly ($p<0.05$) during the 3-month follow-up. A significant improvement was observed in most domains of FSFI.

Conclusion: The results suggest that HIFEM technology is an efficacious therapy for treatment of SUI

Yao-Yu Yang **楊曜瑜**
(Y25)



Comparison of Female Sexual Function following the TVT-O Sling System versus the Altis Single-Incision Sling System

Yao-Yu Yang[1], MD, Chieh-Yu Chang[1], MD , Chang-Lin Yeh[1], MD, Zi-Xi Loo[1], MD, Yi-Yin Liu[2], MD, Kun-Ling Lin[1], MD, and Cheng Yu Long[1] MD, PhD.

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[2]Department of Obstetrics and Gynecology, Kaohsiung Municipal Hsiao-Kang Hospital, Kaohsiung Medical University, Kaohsiung, Taiwan

Objectives: There is limited available data on sexual function after single incision sling (SIS) surgery. We conducted a comparison of sexual function six months postoperatively between patients who underwent SIS and those who underwent transobturator sling (TMUS) procedures for the treatment of stress urinary incontinence.

Methods: This retrospective, single-center study strategically incorporated the assessment of sexual function as a planned secondary objective. Women were enrolled in either Altis SIS or TVT-O TMUS procedures, with the primary focus being the comparison of efficacy and safety using a non-inferiority design over a 6-month period. Patient-reported outcomes related to sexual function were evaluated at both baseline and the 6-month mark, employing the Female Sexual Function Index (FSFI). Changes in sexual function were analyzed within and between groups.

Results: Baseline characteristics were effectively balanced through propensity score stratification (N=16 for SIS, N=24 for TMUS). The groups exhibited similarity in parity, body mass index, 1-hour pad test, past medical history, and concurrent surgeries performed. Although the age was slightly higher in the TVT-O group, the difference was not statistically significant. The entire follow-up duration was 6 months. There was no significant change in mean FSFI scores from baseline to 6 months for either group, encompassing sexual desire, sexual arousal, lubrication, and orgasm. However, the FSFI scores for the TVT-O group demonstrated an increase from baseline to 6 months in satisfaction (pre-op 4.00±1.05, post-op 6 months 4.90±0.73, P-value 0.03) and dyspareunia (pre-op 4.35±1.38, post-op 6 months 5.15±1.06, P-value 0.02).

Conclusions: These data show that mid-urethral sling surgery has no detrimental influence on sexual function in women with stress urinary incontinence. Additionally, the TVT-O group exhibits a slight advantage over the Altis group in terms of satisfaction and dyspareunia.

Keywords: Incontinence surgery, single Incision sling; transobturator sling; midurethral sling; stress urinary incontinence; dyspareunia; sexual function; sexual. activity.

Yu-Jen Lai 賴昱蓁
(Y26)

THE RELATIONSHIP BETWEEN VAGINAL MICROBIOTA AND CERVICAL CARCINOGENESIS PROCESS

*Yu-Jen Lai[1], MD, Wen-Hsuan Lin[1], MD, Chao-Chih Wu[2], Yu-Chia Hsiao[2], and Chih-Long Chang[1] MD, PhD **
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Objective: Persistent infection with high-risk human papillomavirus can lead to cervical dysplasia and cancer. Recently, the relationship between vaginal microbiota and cervical cancer or cervical dysplasia has been found. The aim of our study is to explore the vaginal microbiota, including the diversity and predominant species in different stage of cervical carcinogenesis process.

Methods: 109 vaginal swabs were collected from women, which were diagnosed with "normal", "reactive changes", "LSIL (Low grade squamous intraepithelial lesion)", "HSIL (High grade squamous intraepithelial lesion" and "cancer" by cytology. The bacteria species in each group were identified by 16s rRNA amplification then the sequences were examined and read by Microbial Genomics Module of QIAGEN CLC Genomics Workbench 20 (version 20.0.2). The alpha and beta diversity were also calculated.

Results: In total, 109 samples were analyzed. The alpha diversity of vaginal microbiome was significant higher in cancer ($p < 0.02$) and HSIL ($p < 0.05$) group, compared to normal group. The beta diversity is significant different between the normal group and LSIL group, so as between the normal group and HSIL group (both $p < 0.05$). Besides, the amount of *Prevotella timonensis* is significantly higher in cancer ($p < 0.001$) and HSIL ($p < 0.01$) group.

Conclusion: The diversity of vaginal microbiota is associated with the different stage of cervical carcinogenesis process. The abundance of *Prevotella timonensis* may be associated with cervical cancer progression.

Yi-Cih Ma **馬翊蕊**
(Y27)

Distribution pattern of human papilloma virus (HPV) genotyping between normal and abnormal cervical cytology and its carcinogenic risk-a single institution experience

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[2] Department of Post-Baccalaureate Medicine, College of Medicine, National Chung Hsing University, Taichung 402, Taiwan

Objective: We attempted to evaluate the prevalence rate of human papilloma virus (HPV) and its genotyping in normal and abnormal cervical cytology, and in different cytologic abnormalities.

Materias and Methods: We enrolled 583 patients who underwent our national DR. HPV Genotyping in Vitro Diagnostic Device (IVD) Kit during June 2020 to December 2022 in our hospital, which was done concurrently with or within three months of Papanicolaou (Pap) smear. Then analyzed epidemiological relationships of HPV typing between normal and abnormal cervical cytology also type-specific HPV prevalence in women of abnormal Pap test.

Results: There was higher HPV prevalence in abnormal than normal Pap group (66.67% vs. 24.65%, P<0.001), especially for type 16,45,51,52,58,59,62,66,70,84 (all P<0.05). HPV type 58 was most prevalent in abnormal cytology group followed by type 16 and type 52. In the subgroups of abnormal pap test, HPV positive rate was 0 %, 54.12 %, 85.29% , 88.46%, 100% for cytology report AGC, ASCUS, LSIL, HSIL and invasive carcinoma respectively. Totally four patient was reported to have invasive carcinoma in this study, among them, two had type 16 and two had type 58 infection.

Conclusions: Higher prevalence of HPV infection among abnormal cervical cytology, which correlated to their known risk of carcinogenesis in cervical neoplasia, especially for type 16 and 58 infection in this single hospital experience.

Yun-Ting Gao 高昀廷
(Y28)

Association of Body Weightand Outcomes in Patients with Endometrial Cancer: A Single-Center Analysis

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Department of Obstetrics and Gynecology, China Medical University Hospital, Taichung, Taiwan

Objective: Due to concern regarding the rising number of endometrial cancer and curiosity about the body weight related to the prognosis of endometrial malignancy, this study aims to determine the clinical characteristic, including body weight, and outcomes in our hospital.

Materials & Methods: Patients with endometrial cancer treated between 2000 and 2017 in China Medical University Hospital were retrospectively reviewed. The clinical and pathological factors were analyzed for the relationships with patient outcome.

Patients' age and BMI at diagnosis, stage of disease, histologic type and grading, number of lymph node metastasis, operation method, adjuvant therapy and comorbidity were extracted from medical records.

Results: A total of 700 patients were included in this study. Among the various factors analyzed, age, blood loss during the operation, histology type, grading, lymph node metastases, adjuvant treatment, and low BMI were identified as significant prognostic factorsfor poor outcomes.

Conclusion: Managing a patient with endometrial cancer is an art. Beside other clinical factors, low BMI should also be aware in practice.

Chun-Ting Fan 范鈞婷
(Y29)

Minimally invasive surgery in early stage endometrial cancer in Taiwan

Chun-Ting Fan [1], Shih-Tien Hsu [1], Lou Sun [1], Sheau-Feng Hwang [1], Chih-Ku Liu [1], Yu-Hsiang Shih [1], Ming-Jer Chen [1,2], Chien-Hsing Lu [1, 2, 3]

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Background: Minimally invasive surgery has become standard for early stage endometrial cancer, showing non-inferior oncological outcomes and reduced operative morbidity when compared with open surgery.

Methods: We retrospectively included 1,773 patients with primary clinical stage 1 endometrial cancer in Taiwan from 2018 to 2020 who underwent a standard staging operation consisting of laparoscopic, robotic or laparotomy total hysterectomy and bilateral salpingo-oophorectomy for analyses. The demographic and pathologic parameters were recorded.

Results: From 2018 to 2020, a total of 1,773 patients were diagnosed with clinical stage 1 endometrial cancer and received standard staging operation in Taiwan. Among them, 960 (54.1%) patients received laparotomy and 813(45.9%) received laparoscopic or robotic surgery. There was no significant difference in the mean age or body mass index between the study groups. Patients treated with laparoscopic and robotic surgery were statistically more often to be diagnosed as endometrioid type (89.9% and 87% vs. 82.1%, $p<0.001$) and pathologic stage 1 (91.3% and 88% vs. 83.5%) compared with laparotomy group. The extent of regional lymph node involvement was significantly greater in the laparotomy group. Also the laparotomy group were more likely to receive adjuvant chemotherapy (19.1% vs. 9.9% and 12%, $p<0.001$) and radiation therapy (15.4% vs. 6.8% and 13.4%, $p< 0.001$) compared with the minimally invasive group.

Conclusion: About half of primary clinical stage 1 endometrial cancer patients in Taiwan received minimally invasive surgery. Those who received minimally invasive surgery were associated with endometrioid type, less advanced stage, and received less aggressive adjuvant treatment.

Chien-Chien Yu 游千千
(Y30)

The physical, mechanical and biological properties of absorbable scaffold harvested with human amniotic fluid stem cells on rate model: An innovation for pelvic reconstruction surgery

Chien-Chien Yu[1], MD, Tsia-Shu Lo[1,2], MD, Yi-Pin Chen[1], MD, Steven W. Shaw[2], PhD, Yi-Hao Lin[1,2,] MD
[1] Dept. of Obs. and Gyn., Linkou/Taipei/Keelung, Chang Gung Memorial Hospital, Taoyuan, Taiwan
[2] Chang Gung University, School of Medicine, Taoyuan, Taiwan

Objective: The current practice of restoring the anatomical structure in the treatment of pelvic floor dysfunction includes implantation of synthetic sling, which carries complications. This study aimed to develop biological substitutes to improve tissue function using scaffolds as a support to the host cells, through formation of new tissue.

Methods: Human amniotic fluid stem cells (hAFSCs) were seeded on synthetic mesh-scaffold of AlloDerm Regenerative Tissue Matrix (RTM), Poly-DL-lactico-glycolic acid (PLGA) mesh (VICRYL) and Polydioxanone (PDS) meshes. In vitro study evaluates the metabolic activity of hAFSCs seeded mesh-scaffolds. In vivo study involving Sprague-Dawley rats was performed by assigning into 7 groups of sham control with fascia operation, AlloDerm implant, PDS implant, PLGA implant, AlloDerm harvest with hAFSC (AlloDerm-SC), PDS harvest with hAFSC(PDS-SC) and PLGS harvest with hAFSC (PGLA-SC).

Result: In vitro study reveals cell viability and proliferation of hAFSC on mesh scaffolds varies between meshes, with AlloDerm growing the fastest. The biomechanical properties of tissue-mesh-complex tension strength declined over time, showing highest tension strength on week-1, deteriorated similar to control group on week-12. All hAFSC-seeded mesh provides higher tension strength, compared to without. This study shed the potential of synthetic mesh as a scaffold for hAFSC for the surgical treatment of pelvic floor dysfunction.

Conclusion: AlloDerm (RTM), Poly-DL-lactico-glycolic acid mesh (VICRYL) and Polydioxanone (PDS) meshes commercially available synthetic mesh kits could serve as a role of scaffold for hAFSC, with AlloDerm scaffold being the most suitable for hAFSC cultivation. The increasing strength on the mat complex culture with hAFSC was not achieved on all 3 kits on week 12. Nevertheless, this study shed promising potential of tissue engineering in the future of surgical treatment for pelvic organ prolapse.

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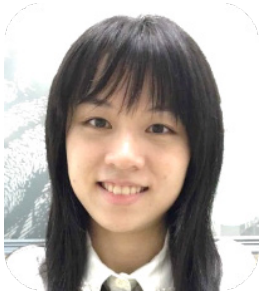
Ching-Wen Chou 周靜汶
(Y31)



Specialized technique of aggressive sperm immobilization improves reproductive outcomes in patients with male infertility and ICSI fertilization failure

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Objective: Can aggressive sperm immobilization (SI) prior to intracytoplasmic sperm injection (ICSI) improve reproductive outcomes for infertile couples with a history of ICSI fertilization failure (FF)?

Materials and Methods: Twenty-three Infertile couples with male infertility who experienced FF during previous ICSI cycles and received subsequent ICSI cycles with aggressive SI were enrolled in our study. This study was conducted in National Taiwan tertiary university hospital between January 2016 and February 2022. Standard (N=31) and aggressive(N=34) SI were performed by compressing the distal tail of the spermatozoa at <5 and up to 15 cuts prior to ICSI respectively. Generalized estimating equations (GEE) for a repeated measurement analysis were applied to compare the clinical outcomes between standard and aggressive SI prior to ICSI. The primary outcome was the live birth rate (LBR). The secondary outcomes were fertilization rate (FR), number of transferred and good-quality embryos per transfer cycle, and clinical pregnancy rate, defined as the presence of a fetal heartbeat at the 7th gestational week. All outcomes were adjusted for age, SI method, time interval between oocyte triggering and ICSI, gravidity, parity, and the number of retrieved metaphase II oocytes.

Result: Overall, 23 couples contributed to 65 ICSI cycles, including 31 standard and 34 aggressive SI, which were applied to the GEE analysis. There were seven live births in the aggressive SI group and one live birth in the standard SI group, resulting in a significantly high number of live births in the former group (OR 23.45, 95%CI: 23.39– 23.52, P=0.0073). The average FR in the initial ICSI cycles with standard SI and subsequent ICSI cycles with aggressive SI was 23.6±23.1% and 49.5±31.8, separately. Aggressive SI prior to ICSI was associated with an increase of 27.4% in the FR (95% CI: 13.1– 41.8%, P=0.0002). The number of embryos transferred per transfer cycle was higher in the aggressive SI group (P=0.015), whereas the number of good-quality embryos was similar between the two groups.

Conclusion: Aggressive SI before ICSI was associated with a significantly higher fertilization rate (FR) and live birth rate (LBR) and can be a safe, economic, and effective method to improve the assisted reproductive technologies (ART) outcomes for infertile patients affected by previous ICSI-FF

Yu Wang 王瑀
(Y32)

Impact of adenomyosis and endometriosis on IVF/ICSI pregnancy outcome in patients undergoing gonadotropin-releasing hormone agonist treatment and frozen embryo transfer

Yu Wang, Yu-ChiaoYi, Hwa-FenGuu, Ya-Fang Chen, Hsiao-Fan Kung, Jui-Chun Chang, Li-Yu Chen, Shih-Ting Chuan1 & Ming-Jer Chen
Division of Reproductive Endocrinology and Infertility, Department of Obstetrics, Gynecology and Women's Health, Taichung Veterans General Hospital, 1650 Taiwan Boulevard Sect. 4, Taichung 40705, Taiwan

Objective: To investigate whether adenomyosis and endometriosis afected IVF outcomes in our patients.

Materials and Methods: This was a retrospective study of 1720 patients from January 2016 to December 2019. In total, 1389 cycles were included: 229 cycles in the endometriosis group (group E), 89 cycles in the adenomyosis group (group A), 69 cycles in the endometriosis and adenomyosis group (group EA), and 1002 cycles in the control group (group C). Most patients in groups A and EA received GnRH agonist treatment before FET.

Results: The 1st FET live birth rates (LBR) were 39.3%, 32.1%, 25% and 48.1% in groups E, A, EA, and C. The miscarriage rates were 19.9%, 34.7%, 39%, and 17.6%. The per retrieval cycle cumulative live birth rates (cLBRs) in patients < 38 y/o were 56.4%, 58.1%, 44.8%, and 63%. The per retrieval cycle cLBRs in patients ≥ 38 y/o were 25%, 9.8%, 17.2%, and 29.5%. Among groups A and EA, LBRs were 25.58% and 18.89% in patients with a ≥ sevenfold decrease and a < sevenfold decrease in CA-125 level, respectively, after GnRH agonist treatment.

Conclusion: Endometriosis was not associated with a poorer pregnancy outcome. Patients with adenomyosis with/without endometriosis had higher miscarriage rates, lower LBRs, and lower cLBRs, especially in patients aged≥ 38 years, even after GnRH agonist treatment before FET cycles. Patients who have a greater than sevenfold decrease in CA-125 level after GnRH agonist treatment might have better clinical pregnancy outcomes.

Po-Wen Lin 林柏文
(Y33)

Administration of oxytocin receptor antagonist during frozen embryo transfer might improve live birth rates in women with recurrent implantation failure, adenomyosis and myoma

Po-Wen Lin[1], Chyi-Uei Chern[1], Chia-Jung Li[1,2], Pei-Hsuan Lin[1], Yu-Chen Chen[1], Kuan-Hao Tsui[1,2,5], Li-Te Lin[1,2,5,6]*

[1] Department of Obstetrics and Gynecology, Kaohsiung Veterans General Hospital, Kaohsiung City, Taiwan

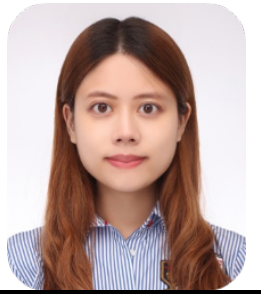
Objective: To investigate the effect of oxytocin receptor antagonist used during frozen embryo transfer on IVF outcomes and further analyze the effect of oxytocin receptor antagonist on subgroups.

Materials and Methods: This retrospective cohort study contained 431 patients who underwent first IVF frozen embryo transfer (FET) cycle in our reproductive center from Jan. 2021 to Dec. 2021. The study group included 162 patients receiving oxytocin receptor antagonist during embryo transfer. A total of 227 patients in the control group underwent embryo transfer without administrating oxytocin receptor antagonist. Baseline characteristics, infertility histories, ovarian reserve tests and IVF outcomes were compared between the two groups. Subgroup analyses were also performed.

Result: Baseline characteristics and FET cycle characteristics were similar between the two groups. In all population, no significant difference regarding live birth rates was observed between the study group and the control group. However, in the subgroups, compared to the control group, live birth rates in the study group were significantly higher (RIF, 43.9% versus 26.2%, $P = 0.016$; adenomyosis, 37.7% versus 22.1%, $P = 0.039$; myoma, 46.3% versus 20.4%, $P = 0.004$). The multivariate analysis revealed that use of oxytocin receptor antagonist was positively associated with live birth rates in women with RIF (adjusted OR 2.17, 95% CI 1.08– 4.35, $P = 0.030$), adenomyosis (adjusted OR 3.44, 95% CI 1.43– 8.28, $P = 0.006$) and myoma (adjusted OR 3.11, 95% CI 1.23– 7.85, $P = 0.016$).

Conclusion: Oxytocin receptor antagonist administration during frozen embryo transfer might improve live birth rate in women with recurrent implantation failure, adenomyosis and myoma.

Meng-Hsuen Hsieh 謝孟軒
(Y34)



Changes in cervical elastography, cervical length and endocervical canal width after cerclage for cervical insufficiency: an observational ultrasound study

Meng-Hsuen Hsieh[1], MD, Chie-Pein Chen[1], MD, PhD, Fang-Ju Sun[2], Yi-Yung Chen[1], MD, Liang-Kai Wang[1], MD, Chen-Yu Chen[1,3], MD, PhD.
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Background: We previously demonstrated that pregnant women with a history of cervical insufficiency had a softer anterior cervical lip, shorter cervical length and wider endocervical canal in the first trimester. The aim of this study was to investigate changes in cervical elastography, cervical length, and endocervical canal width in the second trimester after cerclage, and further discuss whether these ultrasound parameters are predictive of preterm delivery.

Methods: This was a secondary analysis of cervical changes in singleton pregnancies after cerclage from January 2016 to June 2018. Cervical elastography, cervical length, and endocervical canal width were measured during the second trimester in the cervical insufficiency group and control group without cervical insufficiency. Strain elastography under transvaginal ultrasound was used to assess cervical stiffness and presented as percentage (strain rate).

Results: Among the 339 pregnant women enrolled, 24 had a history of cervical insufficiency and underwent cerclage. Both anterior and posterior cervical lips were significantly softer in the cervical insufficiency group even though they received cerclage (anterior strain rate: 0.18 ± 0.06% vs. 0.13 ± 0.04%; P = 0.001; posterior strain rate: 0.11 ± 0.03% vs. 0.09 ± 0.04%; P = 0.017). Cervical length was also shorter in the cervical insufficiency group (36.3 ± 3.6 mm vs. 38.3 ± 4.6 mm; P = 0.047). However, there was no significant difference in endocervical canal width between the two groups (5.4 ± 0.7 mm vs. 5.6 ± 0.7 mm; P = 0.159). Multivariate logistic regression analysis also revealed significant differences in anterior cervical lip strain rate (adjusted odds ratio [OR], 7.32, 95% confidence interval [CI], 1.70-31.41; P = 0.007), posterior cervical lip strain rate (adjusted OR, 5.22, 95% CI, 1.42-19.18; P = 0.013), and cervical length (adjusted OR, 3.17, 95% CI,1.08-9.29; P = 0.035). Among the four ultrasound parameters, softer anterior cervical lip (P = 0.024) and shorter cervical length (P < 0.001) were significantly related to preterm delivery.

Conclusions: Cervical cerclage can prevent widening of the endocervical canal, but not improve cervical elasticity or cervical length. Measuring anterior cervical elastography and cervical length may be valuable to predict preterm delivery.

Ning-Shiuan Ting 停寧萱
(Y35)

The timing of Prostin E2 intervention in poor response of Propess use in induction of labor

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Introduction: In our hospital, there are two medications for Induction of labor (IOL) available: The Propess (dinoprostone vaginal pessary) and Prostin E2 tablets. According to the previous study, the Propess had the advantage of a shorter induction to delivery interval compared to the Prostin E2. However, there are still have group of patients that had poor response after Propess use and needed further Prostin E2 to boost the dinoprostone level to achieve cervical change and vaginal delivery finally. The objective of this study was to compare efficacy of the different timing of Prostin E2 intervention after Propess use.

Method: This single-institution retrospective cohort study was conducted from January 2020 to August 2023. Inclusion criteria were nulliparous, singleton, >37 weeks' gestation, cephalic presentation with an unfavorable cervix (Bishop score ≤ 6) after Propess use for 8 hours.

Then we divided it into three groups according to the timing of adding Prostin E2 at the 8th (group 1), 12th (group 2), and 24th (group 3) hours, respectively. The primary outcome is the rate of cesarean section and the secondary outcome is the induction-to-birth interval.

Result: In total, 123 women were recruited. Each group had similar patient characteristics, but the gestation age was significantly higher in the group 3. The C/S rate was not significantly different between the three groups, but group 1 achieved a shorter induction-to-birth interval (26.87±9.27 hrs, $p < .0001$) .

Conclusion: Adding Prostin E2 for the patient that had poor response after Propess use was a safe alternative and adding at 8th hours after Propess use could have shorter induction-to-birth interval.

Yu-Hsuan Lin 林瑜萱
(Y36)

Safety Assessment and Side Effects of HIFU with Sonovue in Myoma Patients: A Prospective Randomized Trial

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Objective: To assess the safety profile and potential side effects after HIFU with the use of Sonovue.

Materials and Methods: A total of 30 patients with myomas who underwent high-intensity focused ultrasound (HIFU) were evaluated from September 2021 to February 2022, at Chung Shan Medical University Hospital. The patient was randomized into two groups, one receiving Sonovue during HIFU (N = 20) and the other undergoing HIFU without the use of Sonovue (N = 10, respectively. We evaluated the adverse event related to the HIFU procedure during the operation, two hours after the operation, and two weeks after the operation using the patient' s questionnaire.

Result: The incidence rates of pain in the treated region, sciatic or buttock pain, leg numbness or pain, and skin discomfort showed no significant differences between the two groups during the HIFU procedure, two hours and two weeks after the HIFU procedure(P> 0.05). However, the incidence rates of vaginal bloody discharge were significantly higher in the control group when analyzing postoperative adverse events 2 hours after the HIFU procedure (P=0.045).

Conclusion: There's no significant increase in the incidence rates of side effects between the Sonovue group and the control group. We suggest Sonovue as a safe ultrasound contrast agent for HIFU ablation.

Chia-Han Chung 鍾佳翰
(Y37)

Comparison of Clinical Outcomes of Switching from Monopolar to Bipolar Hysteroscopic Myomectomy

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Objective: To compare clinical outcome of women who underwent monopolar versus bipolar hysteroscopic myomectomy.

Materials and Methods: All women received monopolar (n=45) or bipolar (n=137) hysteroscopic myomectomy between January 2009 and July 2021 were reviewed.

Result: The infused fluid volume was significantly larger in the bipolar group, compared with monopolar (4310±3761 mL versus 2317±2024 mL), despite of no between-group differences in blood loss, operative time and complication rate. Myoma diameter (coefficient=680 mL, 95% confidence interval (CI)=334-1025 mL, p<0.001) and the use of bipolar hysteroscopy (coefficient=1629 mL, 95% CI=507-2752 mL, p=0.005) were the independent predictors for infused fluid volume. The predicted infused fluid volume (y) for a given myoma diameter (a) and the use of a bipolar reseptoscope can be denoted by y = 680 x a + 1629 x b + 262. Myoma diameter ≥4.0 cm was the optimal cutoff value to predict the presence of >5000 mL of infused volume, with a receiver operating characteristic curve area of 0.60 (95% CI=0.49 to 0.72).

Conclusion: The infused fluid volume might increase when switching from monopolar to bipolar hysteroscopic myomectomy. Meticulous monitoring of infused fluid volume and fluid deficit is imperative to avoid fluid overload, especially for ≥4 cm submucous myoma in the era of bipolar hysteroscopic myomectomy.

Chi-Han Chang 張季涵
(Y38)

Comparing Clinical Outcomes of Laparoscopic Myomectomy with and without Uterine Elevator: A Retrospective Analysis

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Aims and objectives: This study aimed to compare the clinical outcomes of laparoscopic myomectomy (LM) performed with or without the use of a uterine elevator.

Background: Uterine leiomyomas are prevalent among reproductive-age women and can necessitate surgical intervention when medical treatments prove ineffective. Myomectomy, while effective, can lead to obstetric complications, particularly in cases of uterine cavity breach during surgery. Preserving endometrial cavity integrity is crucial, especially for fertility preservation during LM.

Materials, setting and methods: Retrospective analysis of data from women undergoing laparoscopic myomectomy at our hospital between January 2020 and June 2023 was conducted. Demographic data were collected, and primary outcomes assessed included conversion rate, abdominal port count, operative time, hospitalization duration, and blood loss. Secondary outcomes encompassed adverse events such as endometrial cavity breach, postoperative anemia, and leiomyoma recurrence. Statistical analysis employed SPSS software, with significance set at $p<0.05$.

Results: Among 36 patients, 18 and 18 were included in the groups of LM without and with a manipulator, respectively. The LM without manipulator group exhibited larger myomas (7.38±2.16 cm vs. 5.73±3.08 cm, p=0.0069). No other significant baseline differences were observed. Primary outcomes revealed no substantial intergroup differences. While a trend towards lower leiomyoma recurrence (11% vs. 33%, p=0.2293) and endometrial cavity breach (5.56% vs. 33.3%, p=0.0877) was observed in the LM without manipulator group, statistical significance was not reached.

Conclusion: The clinical outcomes of laparoscopic myomectomy performed without a uterine elevator were comparable to those with a manipulator. The absence of a manipulator may potentially aid in preserving endometrial cavity integrity and reducing leiomyoma recurrence. Further investigation through larger cohort studies is warranted to elucidate the true impact of uterine elevator usage on endometrial cavity integrity and leiomyoma recurrence.

Ai-Lun Lee 李艾倫
(Y39)

Antimüllerian hormone is highly expressed in the eutopic and ectopic endometrium of patients with endometrioma

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Objective: To assess and semiquantify AMH level in endometrium, ectopic endometrial tissue in ovary and deep infiltrating endometrial tissue of peritoneum of patients with endometrioma.

Materials and Methods: Retrospective laboratory analysis was conducted on surgical specimens obtained from conservative laparoscopic procedures performed on endometrioma patients aged < 42 years between July 2009 and December 2013. The data is presented as mean ± standard deviation (SD).

Paired endometrial tissue biopsies obtained during the same surgical procedure, encompassing samples from the eutopic endometrium, ovarian endometriosis, and pelvic endometriosis, during both the proliferative and secretory phases, were employed for analysis. mRNA expression was quantified through PCR and normalized to GAPDH. Formalin-fixed and paraffin-embedded sections underwent IHC using a primary polyclonal rabbit anti-human AMH antibody (Proteintech). Staining intensity was evaluated using H-SCORE, ranging from 0 to 300.

Result: The analysis encompassed 12 patients in the proliferative phase (age: 34.3±4.3 years) and 12 patients in the secretory phase (age: 33.2±5.6 years). Both PCR and IHC staining demonstrated the expression of AMH in both the eutopic endometrium and ectopic endometrial tissue.

In general, the expression of AMH is higher in the secretory phase compared to the proliferative phase in both the eutopic endometrium ($p = 0.001$) and pelvic endometriotic lesions ($p < 0.05$). During the proliferative phase, the immunointensity of AMH in the ectopic endometrium is comparable to that in the eutopic endometrium.

During the proliferative phase, the stromal cells exhibit higher expression compared to the glandular cells. Conversely, in the secretory phase, the glandular cells demonstrate a stronger AMH immunointensity, reaching a level similar to that of the stromal cells. Additionally, the eutopic endometrium displays a higher AMH immunointensity than the ectopic endometrium ($p < 0.01$).

Conclusion: Our study revealed that granulosa cells are not the sole source of AMH secretion; both the eutopic and ectopic endometrium express AMH. Furthermore, AMH expression in the endometrium is influenced by the menstrual cycle, with higher expression observed in the secretory phase. In conclusion, AMH may not be a suitable marker for representing ovarian reserve in patients undergoing surgery for endometrioma.

Chia-Han Chung 鍾佳翰
(Y40)

Figure out the risk factors of Postpartum Depression (PPD)

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Materials and Methods: Between Jan. 2019 to Dec. 2022, we followed up the Postpartum Depression with Edinburgh Postnatal Depression Scale with 5062 maternal were included. Excluding the incomplete data of baby and maternal (23 and 524), twin pregnancy with repeated data (182), and without filling out or returning the scale (1407), we have the data of 2926 Production times with EPDS scale. We analyze the different basic characteristics and the possible risk factors of PPD including marriage or not, education status, delivery age, prenatal complications, preterm delivery, postpartum complications, Cesarean Section, primiparous pregnancy, poor outcomes of baby, and breastfeeding. We calculated the score above a threshold 13 were likely to be suffering from a depressive illness of varying severity. Also, question No. 10 with at least 1 point was considered as high risk of PPD.

Result: The significant positive risk factors of PPD are married or not and primiparous pregnancy. In our study, the percentage of unmarried with EPDS > 12 points is 6.25% compared to those EPDS < 13 points 2.05% (p=0.02). The percentage of primiparous pregnancy with EPDS > 12 points the p value is 0.002. Interestingly, the low birth weight, preterm labor, Pregnancy Induced Hypertension and breast feeding all showed no significant difference.

Conclusion: The analysis of EPDS showed the primiparous pregnancy and unmarried maternal are the risk factors of PPD. The reason for these situations are risk factors of PPD needs more clinical follow up. Not only for the clinical follow up, but we are also able to collect more data to analyze the risk factor in different complicated situations during prenatal, perinatal and postpartum period.

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