

Section I: Fetal Medicine 1

Moderator: 陳震宇 Chen-Yu Chen 臺北馬偕醫院 蔡慶璋 Ching-Chang Tsai 高雄長庚醫院		
時間 Time	題目 Topic	演講者 Speaker
09:00-09:05	Opening Remarks	蕭勝文 Steven Shaw 林口長庚醫院
09:05-09:30 Obgyn-S01	Hydrops Fetalis: Case Sharing	許晉婕 Chin-Chieh Hsu 林口長庚醫院
09:30-09:55 Obgyn-S02	Prenatal Diagnosis of Anal Atresia	莊雅淳 Ya-Chun Chuang 基隆長庚醫院
09:55-10:20 Obgyn-S03	Preeclampsia Prevention and Review of the Ophthalmic Artery	張東曜 Tung-Yao Chang 台兒診所
10:20-10:30	General Discussion	
10:30-10:40	Coffee Break	

Section II: Fetal Medicine 2

Moderator: 陳彥廷 Yen Tin Chen 台北長庚醫院 葉長青 Chang-Ching Yeh 臺北榮民總醫院		
10:40-11:05 Obgyn-S04	Prediction of Small-for-gestational-age Neonates(SGA) by Second-trimester Uterine Artery Doppler Assessment in Monochorionic and Dichorionic Twins	戴怡芸 Yi-Yun Dai 臺大醫院
11:05-11:30 Obgyn-05 Video	Prenatal Assessment of Skeletal Dysplasia: Linking Ultrasound Findings with Genetic Etiologies	陳智齡 Chih-Ling Chen 臺大醫院
11:30-11:55 Obgyn-S06	Prenatal Evaluation of the Fetal Porto-Hepatic System	李家昌 Jia-Chang Li 臺大醫院
11:55-12:05	General Discussion	

### OBGYN-S01

#### OBGYN-S02

##### **Prenatal Diagnosis of Anal Atresia**

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Imperforate anus occurs in approximately 1 in 1,500 to 1 in 5,000 live births. About 50% of cases are associated with other anomalies, including VACTERL association and trisomy 21. Anal atresia is classified as high, intermediate, or low, and the level of atresia is strongly correlated with prognosis. Low anal atresia may require only a simple surgical repair, whereas intermediate and high anal atresia typically necessitate multistep, complex surgical procedures and are often associated with residual fecal incontinence.

Conventional prenatal diagnosis of anal atresia has relied on indirect sonographic signs, such as enterolithiasis and bowel dilatation. Using an axial two-dimensional sonographic image of the fetal perineum, the circular isoechoic anal sphincter with its inner hyperechoic mucosa can be visualized, a finding known as the “target sign.” However, these methods are applicable only from mid-gestation, thereby precluding early diagnosis, and they do not allow determination of the level of atresia.

A sagittal infracoccygeal approach can delineate the anal canal mucosa and identify the level of the anal opening. This method provides a better means of differentiating high from low anal atresia prenatally, which may improve parental counseling and allow more accurate prediction of postnatal prognosis and future fecal continence.

### OBGYN-S03

#### OBGYN-S04

##### **Prediction of Small-for-gestational-age Neonates (SGA) by Second-trimester Uterine Artery Doppler Assessment in Monochorionic and Dichorionic Twins**

*Yiyun Tai*

*Department of Obstetrics and Gynecology,  
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##### **Objectives:**

We aimed to investigate whether trans-abdominal uterine artery (UtA) pulsatility index (PI) differs between monochorionic (MC) diamniotic and dichorionic (DC) twins and is useful to predict SGA.

##### **Methods:**

A retrospective cohort study involving twin pregnancies scanned between 19 and 24 weeks of gestation from November 2008 to October 2023 was conducted. The primary outcome was the prediction of preterm and term SGA neonates, with categorized into three groups: non-SGA, at least one SGA, and both SGA, defined by birthweight below the 10th percentiles (INTERGROWTH-21st standard).

Multivariable logistic regression analysis was used to assess the predictive accuracy, focusing on maternal factors and UtA-PI values. Receiver operating characteristic (ROC) curve analysis was employed to evaluate the predictive performance.

##### **Results:**

A total of 1874 twin pregnancies were included, including 254 (13.6%) MC and 1620 (82.4%) DC twins. The median mean PI was 0.74 in DC and 0.84 in MCDA twin pregnancies, showing a significant difference between the two groups ( $P < 0.05$ ). The results demonstrated that an elevated uterine artery PI ( $>95$ th percentile) was associated with increased risks of SGA, preeclampsia, and preterm birth. However, the predictive performance of PI for SGA was limited, with area under the receiver operating characteristic (ROC) curve (AUC) values of 0.575 for MC and 0.576 for DC twins. Sensitivity and positive predictive values were notably low, suggesting that

UtA Doppler screen alone is insufficient as a screening tool for SGA in twin pregnancies.

### Conclusions:

MC pregnancies have higher mean UtA PI. UtA screening in twins shows lower performances than in singletons for the detection of SGA.

### OBGYN-S05

#### **Prenatal Assessment of Skeletal Dysplasia: Linking Ultrasound Findings with Genetic Etiologies**

*Chih-Ling Chen<sup>1,2</sup>, Jin-Chung Shih<sup>2</sup>, Yi-Yun Tai<sup>2</sup>, Shin-Yu Lin<sup>2</sup>, Jessica Kang<sup>2</sup>, Ni-Chung Lee<sup>1,3</sup>*

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Skeletal dysplasia represents a heterogeneous group of more than 200 disorders that can be inherited in an autosomal recessive, autosomal dominant, and X-linked dominant fashion. Advances in genome-wide genetic testing, together with the ubiquity of ultrasound in prenatal care, have greatly improved the early recognition and diagnoses of fetuses with suspected skeletal dysplasia in utero. Most cases of prenatal dysplasia are diagnosed in the second to third trimester, with features of shortened long bones, reduced chest to abdominal circumference ratio, long bone bending, and multiple fractures being the most common findings. However, abnormal findings such as increased nuchal fold thickness can present in fetuses with the more severe, probably lethal skeletal dysplasia in the early first trimester. Early detection enables timely diagnosis, facilitates counseling regarding continuation of the pregnancy, and informs clinical management strategies, including delivery planning and neonatal care.

### OBGYN-S06

#### **Prenatal Evaluation of the Fetal Porto-Hepatic System**

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The fetal portal-hepatic system consists of umbilical vein, portal vein, and ductus venosus, all of which originate from the embryonic umbilical and vitelline venous networks. This vascular architecture plays a pivotal role in directing highly oxygenated blood from the placenta to the fetus, underscoring its importance in fetal development. Developmental aberrations within this system may lead to clinically significant anomalies, including a persistent right umbilical vein (PRUV), absence of the ductus venosus, and portosystemic shunts—classified as intrahepatic (IHPSS) or extrahepatic (EHPSS). These vascular deviations can compromise fetal circulation, impair hepatic perfusion, and increase the risk of adverse perinatal outcomes such as fetal growth restriction, cardiac overload, and metabolic disturbances.

Accurate prenatal assessment of fetal abdominal organs and vasculature—including the umbilical vein, gallbladder, and ductus venosus—is essential for early detection of these anomalies. Additionally, evaluation of the umbilical artery and ductus venosus waveform serves as a key tool in monitoring fetal well-being, particularly in cases of suspected growth restriction, and in determining the optimal timing for delivery. This presentation reviews the anatomical and functional characteristics of these vascular variants and discusses their implications for prenatal diagnosis, counseling, and perinatal management.