

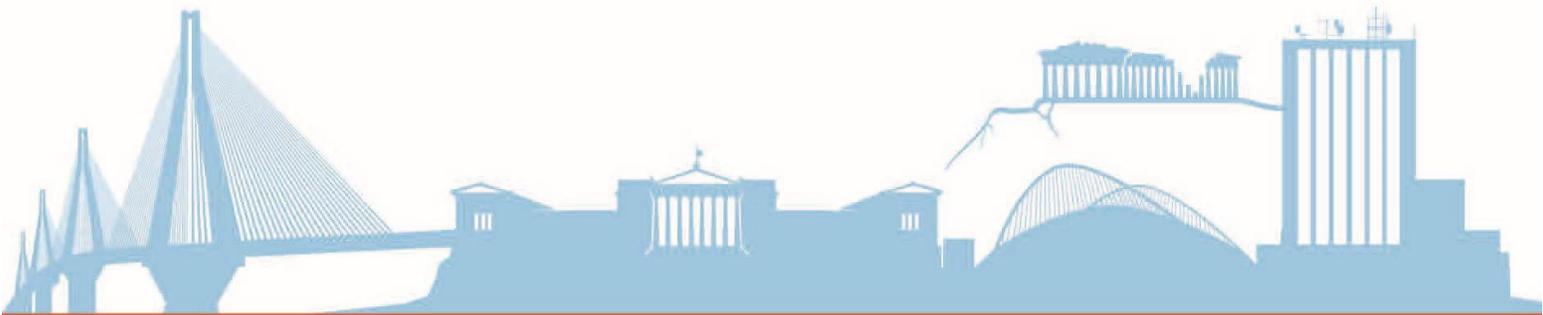


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# TOP 5 Abstracts - Short Oral Communications

OC01

## **TRANSVAGINAL ULTRASONOGRAPHY COMPARED WITH MAGNETIC RESONANCE IMAGING FOR THE DIAGNOSIS OF ADENOMYOSIS**

Dimitrios Karamanidis<sup>1</sup>, Panayiotis Nicolaou<sup>1</sup>, Ioannis Chrysafis<sup>2</sup>, Anastasios Georgopoulos<sup>1</sup>, Elias Tarres<sup>1</sup>, Gerasimos Koutsougeras<sup>1</sup>

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**Objectives:** The purpose of this study was to compare the accuracy of transvaginal ultrasound (TVS) and magnetic resonance imaging (MRI) in the diagnosis of adenomyosis.

**Materials and Methods:** The study population comprised 87 premenopausal patients who underwent transabdominal hysterectomy. The indications for hysterectomy were abnormal uterine bleeding in 34 patients (39.1%), symptomatic myomas in 24 (27.6%), lower abdominal pain and/or endometriosis in 13 (14.9%), adnexal masses 11 (12.6%) and cervical intraepithelial neoplasia 5 (5.7%). The mean age was 48.2 years (range, 39–55 years). Diagnosis of adenomyosis by TVS was based on criteria included cystic anechoic spaces or lakes in the myometrium, posterior uterine wall thickening, subendometrial echogenic linear striations, heterogeneous echotexture and obscure endometrial/myometrial border. MRI criteria used were intramyometrial cyst(s), heterogeneous myometrium usually heterogeneously hyperintense and thickening of the junctional zone of the uterus ( $\geq 12$  mm). MRI, TVS and pathologic examinations were performed independently and the findings were evaluated consecutively. TVS was always performed by the same experienced gynecologist. The pathologists who performed the histopathological examinations was blinded to sonographic and MRI data.

**Results:** Pathology recognized 50 patients with adenomyosis. The sensitivity, specificity, PPV and NPV of TVS were 84%, 91.9%, 93.3% and 80.9% respectively. The sensitivity, specificity, PPV and NPV of MRI were 88%, 94.6%, 95.6% and 85.4% respectively. The accuracy of TVS and MRI were 87.36% and 90.80% respectively.

**Conclusion:** Our results suggest that transvaginal sonography and MRI have similar accuracy rates for the diagnosis of adenomyosis. Although MRI is more sensitive, the TVS is less expensive, well tolerated and readily available in the office to the majority of gynecologists.

OC02

## **SECOND SYSTOLIC PEAK IN MIDDLE CEREBRAL ARTERY DOPPLER OF FETUSES WITH SEVERE ANEMIA - AN EXPLANATORY MODEL BASED ON FETAL PULSE WAVE REFLECTION**

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### Objectives:

In severe fetal anemia a 2nd systolic peak may appear in middle cerebral artery (MCA) Doppler waveforms. We assume this indicates increased systemic pulse wave (PW) reflection and transmission to cerebral circulation.

### Methods:

Arterial PW reflection originates mainly from pelvic region (Nichols 2011) with retrograde transmission to cerebral circulation and systolic flow re-acceleration on arrival at the Doppler sampling site (Heffernan 2013, Liang 2015). The time interval  $\Delta t$  between onset of Doppler waveform and 2nd systolic flow acceleration corresponds to the 2-way travel time (2wTT) of the PW (Fig.1) travelling with velocity  $c$  along the distance  $L$  to the pelvic region and back:  $2wTT = 2L/c$  (Nichols 2011),  $L$  = length (aorta + common iliac artery).

To test this model in the fetus, we performed a preliminary search in our perinatal databases for fetuses with severe anemia  $< 7\text{g/dl}$  (IUT) and MCA 2nd systolic peak, and compared the obtained interval  $\Delta t$  with predicted 2wTT, based on human fetal data on anatomical distance  $L$  (Szpinda 2008) and PW velocity  $c$  (Struijk 2011).

### Results:

We identified 8 fetuses with  $\text{Hb} < 7\text{g/dl}$  (alloimmunization: 7, Parvo-B19: 1) and MCA 2nd systolic peak with adequate Doppler quality for  $\Delta t$  measurements. Mean ( $\pm\text{SD}$ ) fetal Hb was  $4.6 \pm 1.6\text{ g/dl}$ , GA:  $25 \pm 3\text{w}$  and 2nd systolic peak timing  $\Delta t$  was  $73 \pm 10\text{ms}$ .

Human fetal data adjusted to 25w GA yield: distance  $L = 8.3\text{cm}$ , PW velocity  $c = 243\text{cm/s}$ , and thus we obtain:  $2wTT = 2L/c = 68\text{ms}$ , indicating good agreement between model prediction and clinical observation.

### Conclusions:

Increased vascular tone and peripheral resistance in adults are found to increase PW reflection and transmission to the cerebral circulation with systolic flow re-acceleration (Heffernan 2013, Liang 2015). Similarly, the appearance of a 2nd systolic MCA peak in severe fetal anemia shows evidence of increased PW reflection in the human fetus.

OC03

## **USE OF IOTA GUIDELINES IN RWANDA TO DETERMINE THE PRESENCE OF OVARIAN CANCER IN PATIENTS WITH ADNEXAL MASSES.**

Jean Marie Vianney SEBAJURI, Diomede Ntsumbumuyange, Stephen RULISA, Maria Small, Lisa Bazzett-Matabele

**Background:** IOTA guidelines have been proposed as simple rules to help providers distinguish benign from malignant ovarian masses. We applied these guidelines to patients managed in the largest, tertiary care teaching hospital in Rwanda.

**Methods:** Patients undergoing explorative laparotomy for adnexal masses were included in the study. Each patient had one or two sonographic exams by different health providers.

Sonographic findings were compared to final pathology in all cases to determine accuracy of preoperative ultrasound impressions.

**Results:** The study included 72 patients. There were 116 sonographic exams performed according to IOTA rules. In 98 cases (84.5%) masses were categorized as either benign or malignant. Ultrasound was inconclusive in 18 cases (15.5%). Among benign features found on ultrasound, no blood flow (color flow score 1) was found in 79 (68.1%), unilocular cyst in 45 (38.8%), solid component with largest diameter < 7mm in 30 (25.9%), smooth multilocular tumor with diameter < 100mm in 24 (20.7%) and acoustic shadow in 12 (10.3%). Malignant features were: irregular multilocular solid tumor with diameter > 100mm in 26 (22.4%), at least four papillary structures in 18 (15.5%), very strong blood flow in 14 (12.1%), irregular solid tumor in 12 (10.3%) and ascites in 11 (9.5%). In the study, 74 of 78 tumors (94.9%) considered benign by IOTA ultrasound rules were confirmed benign by histology. Similarly, all 20 tumors classified as malignant by IOTA ultrasound rules were confirmed malignant by histology. Therefore, the sensitivity to diagnose benign and malignant tumors by IOTA guidelines was 94.9 and 100%, respectively.

**Conclusion:** When compared to final pathology, ultrasound performed at a tertiary care teaching hospital in Rwanda, using IOTA guidelines, proved very sensitive to distinguish benign versus malignant adnexal masses.

OC04

## ALTERATIONS IN MID-TRIMESTER AMNIOTIC FLUID LEVELS OF RESISTIN, LEPTIN AND TUMOR NECROSIS FACTOR-A IN PREGNANCIES WITH TRISOMY 18 AND 13 AND EUPLOID EMBRYOS

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**Objectives:** The aim of this study was the detection of Resistin, Leptin and Tumor Necrosis Factor-a (TNF-a) in second trimester amniotic fluid from pregnancies with trisomy 18 (Edwards syndrome) and trisomy 13 (Patau syndrome) and, if so, to evaluate their concentrations in comparison with those in euploid pregnancies.

**Method:** The study cohort consisted of women in the mid-trimester of singleton pregnancy that underwent amniocentesis for prenatal diagnosis (between 15+3 and 22+5 gestational weeks). Resistin, Leptin and TNF-a concentrations were measured in 11 women carrying a fetus with diagnosed trisomy 18, 3 fetuses had trisomy 13, while 23 pregnancies with normal karyotype served as controls. TNF-a concentration was determined in 11 samples with trisomy 18, 3 samples with trisomy 13 and 31 euploid pregnancies. Levels of the 3 cytokines in amniotic fluid were measured by commercially available enzyme-linked immunosorbent assay (ELISA) kits. Results: The mean second trimester level of Resistin in cases with trisomy 18 was statistically significantly lower as compared with euploid controls ( $2.5 \pm 0.4$  ng/ml vs.  $3.3 \pm 0.8$  ng/ml, respectively,  $p=0.004$ ), while its median concentration in fetuses with trisomy 13 was found lower than that in normal pregnancies (2.4 ng/ml vs. 3.3 ng/ml, respectively,  $p=0.071$ ). Furthermore, in 63.6% of pregnancies with trisomy 18, amniotic fluid leptin concentration was  $<6.5$  ng/ml, in comparison with 21.2% of euploid embryos (OR=6.1, 95%CI: 1.3 to 28.2,  $p=0.020$ ). Additionally, mid-trimester amniotic fluid Leptin measurement exhibited statistically significant diagnostic value for trisomy 13 (AUC=79.0%, 95%CI: 60.3% to 91.6%,  $p=0.013$ ). Finally, the median TNF-a concentration was statistically significantly lower in pregnancies with trisomy 18, compared with normal pregnancies ( $p=0.008$ ) (AUC=76.5%, 95%CI: 60.9% to 88.2%,  $p<0.001$ ).

**Conclusions:** In the present study for the first-time levels of Resistin, Leptin and TNF-a in amniotic fluid of pregnancies with trisomies 18 and 13 were determined and were found lower than those in euploid pregnancies. Further research is needed to provide greater insight into the metabolic and pathogenetic role of these cytokines in the pathophysiology of these aneuploidies.

## **ULTRASOUND AND HAEMATOLOGICAL EARLY-LUTEAL-PHASE PREDICTORS OF SEVERE OVARIAN HYPERSTIMULATION SYNDROME (OHSS) IN HIGH-RISK PATIENTS FOLLOWING TRIGGERING OF FINAL OOCYTE MATURATION WITH HUMAN CHORIONIC GONADOTROPHIN (HCG)**

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**Objectives:** To determine the predictive value of ultrasound and haematological parameters assessed on Day-0 and Day-3 post-oocyte retrieval on subsequent development of severe OHSS on Day-5 in high-risk patients following hCG triggering.

**Methods:** This is a retrospective study of 319 patients at high-risk for severe OHSS (>18 follicles >11mm diameter) following hCG triggering. Ultrasound assessment of ascites and maximal ovarian diameter (MOD), and measurements of haematocrit (Ht) and white blood cell count (WBC) were performed on the day of oocyte retrieval (Day-0) and three days post-oocyte retrieval (Day-3). Criteria for severe OHSS were the presence of moderate ascites (grade 3) and at least two of the following: MOD $\geq$ 100mm, Ht $\geq$ 45%, WBC $\geq$ 15,000/mm<sup>3</sup>.

**Results:** Severe OHSS was diagnosed in 43 women (13.5%, 95%CI:10.2-17.7) on Day-5 post-oocyte retrieval. No patient developed severe OHSS before or after Day-5. The predictive values of parameters measured on Day-0 and Day-3 are shown in Table 1. The number of oocytes retrieved (cut-off>25 oocytes) was the best predictor on Day-0. Ascites grade on Day-3 and change of ascites grade between Day-0 and Day-3 (cAscD3-D0) were the best predictors for subsequent development of severe OHSS on Day-5 (Table 1). A predictive model constructed using the cut-off values of ascites grade, MOD, Ht, and WBC on Day 3, could predict severe OHSS on Day-5 with 74.4% sensitivity and 89.6% specificity (AUC=0.91, PPV=52.5%, NPV=95.8%) with optimal cut-off the presence of >2 criteria (Table 1).

**Conclusions:** The present study describes the ability of ultrasound and haematological parameters measured on Day-0 and Day-3 post-oocyte retrieval to predict severe OHSS on Day-5. Our novel predictive model may be helpful for patient counseling and alerting the clinician for imminent severe OHSS development in high-risk patients triggered with hCG, facilitating preventive clinical decisions, such as luteal GnRH-antagonist administration and freezing all embryos.

## E-Posters

EA01

### OUTCOME OF FULL TERM GESTATIONS COMPLICATED WITH OLIGOHYDRAMNIOS

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**AIM OF THE STUDY:** To evaluate the 3<sup>rd</sup> trimester amniotic fluid sonographic assessment (AFI) as a parameter of pregnancy outcome.

**MATERIAL - METHOD:** Our study included 40 pregnant women, 20-36 years old, at 35-39 weeks of gestation, with oligohydramnios. The pregnancy assessment included fetal biometry, non-stress test, fetal Doppler velocimetry of umbilical and middle cerebral artery, and biophysical profile estimation. For the amniotic fluid assessment, the method of four quadrants pools was used. The cut-off value of AFI was set at 5cm. Pregnancies were divided in normal pregnancies and pregnancies complicated with intrauterine growth restriction. Apgar scores of all neonates after labour, at 1<sup>st</sup> and 5<sup>th</sup> minutes, were noted, as a marker of fetal compromise.

**RESULTS:** 40% (16) of fetuses with oligohydramnios were complicated with intrauterine growth restriction (IUGR). Most of those fetuses were also characterized of decreased mobility, non-reassuring NST, altered Doppler velocimetry, advanced placental gradea or meconium-stained amniotic fluid. There was also one intrauterine death among those fetuses. The rest 60% (24) of fetuses had normal weight. The mean apgar score of IUGR neonates was 6 at 1<sup>st</sup> minute and 8 at 5<sup>th</sup> minute. The mean apgar score of normal weight fetuses was 8 at 1<sup>st</sup> minute and 9 at 5<sup>th</sup> minute. Most IUGR fetuses were delivered via caesarean section.

**CONCLUSIONS:** Oligohydramnios is an early sign of fetal growth restriction and a good marker for subsequent fetal compromise and pregnancy outcome. Pregnancies complicated with oligohydramnios should be closely monitored in order to reduce neonatal morbidity.

EPO2

## NOVEL DOPPLER SIGN FOR DIAGNOSIS OF FETAL HORSESHOE KIDNEY

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### Objective

To assess renal artery with high definition (HD) flow Doppler in fetuses with horseshoe kidney and devise sonographic sign for antenatal diagnosis.

### Material and methods

Retrospective study included ultrasound datasets of 9 fetuses with horseshoe kidney and 150 consecutive normal singleton pregnancies between 17-26 weeks of gestation. Scan protocol included screening fetal kidneys in coronal plane with B-mode and high definition flow Doppler. Additional planes were used when an abnormality was suspected in the coronal plane. The renal artery was assessed in terms of its number, origin and course.

### Results

Among the 9 fetuses with horseshoe kidney, there were 6 cases of U-shaped and 3 of L-shaped horseshoe kidney. 2 (22%) cases had more than one renal artery. One case had arterial supply from the iliac artery. All cases of U-shaped horseshoe kidney had a more oblique, caudally directed course of the renal artery on either side of the aorta in the coronal plane. In these, the renal artery formed an angle  $<50^\circ$  with the aorta. In case of L-shaped horseshoe kidney, only one renal artery was seen in the coronal plane giving the appearance of unilateral empty renal fossa. On further evaluation, one renal moiety was seen in the coronal plane with its artery. The other renal moiety was seen fused to the former in a horizontal position in the midline anterior to the aorta. Its artery was delineated in the axial and not the coronal plane.

### Conclusion

The fusion of renal moieties in horseshoe kidney alters the course of the renal arteries. Recognition of this deviant renal arterial course during a second trimester scan can serve as a valuable clue to the presence of a horseshoe kidney. The two types of horseshoe kidney (U and L) can also be differentiated owing to their distinctive renal arterial pattern.

EP03

## CHRONIC PARVOVIRUS INFECTION IN A PREGNANT HIV PATIENT

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**Objectives:** To present a rare case of a pregnant HIV patient affected by chronic parvovirus infection.

**Methods:** We present a case of a 31-year-old African woman, gravida 4 para 1, with history of HIV infection, first detected during her previous pregnancy ten years ago. In November 2016, she was diagnosed with cerebral toxoplasmosis and was on sulfadiazine, pyrimethamine and Ca folinate for three months. She was suffering from mild residual right hemiparesis post toxoplasmosis. In April 2017, she became pregnant again and her HIV viral load was <40, with CD4 65 (6%). At 18 weeks, after an episode of dyspnea and lethargy, she was diagnosed with severe anaemia and low reticulocyte count. Viral serology demonstrated chronic parvovirus infection (positive IgM, IgG and DNA detected). Parvovirus IgG and DNA were detected three months before, when serology testing was performed retrospectively. She was transfused with 2 units of blood and given 2g/kg IVIG in 4 divided doses. A referral to our Fetal Medicine Unit at 20+2 weeks of gestation was made and serial fetal growth scans were performed every 2-3 weeks from 22 weeks. The peak systolic velocity of fetal middle cerebral artery was always below 1.5 MoMs and there were no signs of fetal anaemia, hydrops or intracranial and liver calcifications.

**Results:** A 3080 gr male baby was born vaginally at 39 weeks of gestation with Apgar scores of 9 and 10 at 1 and 5 minutes, respectively. The baby was given antiretroviral prophylaxis for 28 days post-delivery and is HIV negative. At one and eleven days post-delivery low level parvovirus viremia was detected. Follow up with paediatric review is organized.

**Conclusions:** Chronic parvovirus infection in pregnancy is very rare. Fetal anaemia and hydrops can develop, leading to adverse perinatal outcomes. Mother and fetus should be properly monitored for possible complications.

EPO4

## OVARIAN DYSGERMINOMA AND PREGNANCY. A CASE REPORT.

Lilit Hovsepyan<sup>1</sup>, Artem Stepanyan<sup>2</sup>, Syuzanna Babloyan<sup>1</sup>, Andranik Pogosyan<sup>1</sup>, Zhirair Malakyan<sup>2</sup>, Tatev Hovhannisyan<sup>1</sup>

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**Objectives:** Ovarian dysgerminoma are malignant ovarian germ-cells tumors. They are characteristically solid and well-encapsulated with an average diameter of 15 cm. In section, they appear to consist of different lobules, are soft. Areas of necrosis and hemorrhage typically associated with cystic change may be seen.

**Methods:** We presented a case of a 32 years old patient, G2, P2, who was referred to our unit for incidentally detected at 33 weeks of gestation right side ovarian mass. Her history was unremarkable. During our ultrasound examination we revealed a 33 weeks singleton healthy fetus, and a purely solid mass 24,5 x 14,5 x 20,0cm on her right side, divided into different lobules, with irregular internal echogenicity, with smooth lobulated contours and well defined borders, and richly vascularized at color/power Doppler examination – score 4. The free fluid in pouch of Douglas was revealed. Her CA- 125 was 533.1 U/ml, LDH- 500.4 U/l.

**Results:** The cesarean section was performed at 34 weeks of gestation, after fetal lung maturation with corticosteroids. The healthy premature baby was born, 2250.0 gram. During operation we revealed a huge solid tumor from right adnexa, free fluid in pouch of Douglas and abdominal cavity, tumor infiltration on the surface of the pelvic peritoneum. No other metastasis were found. The hysterectomy, with bilateral adnexectomy, with optimal cytoreduction were performed. The patient's postoperative course was unremarkable. The histological examination revealed a right ovarian dysgerminoma, stage IIB by FIGO. She received 6 course of adjuvant chemotherapy. Follow-up with ultrasound scans every six months CA 125 and LDH tumor markers surveillance has been performed.

**Conclusions:** The standart ultrasound examination has highly effectiveness in detection of malignant ovarian tumors. The ultrasound finding of a highly vascularized, large, solid, lobulated ovarian mass with irregular internal echogenicity during pregnancy should raise the suspicion of ovarian dysgerminoma.

EP05

## ULTRASOUND SUSPICION OF ENDOMETRIAL POLYPS IN PREMENOPAUSAL WOMEN: WHAT TO EXPECT?

Mariline D'Oliveira<sup>1</sup>, Ana Carolina Rocha<sup>1</sup>, Ana Rita Vicente<sup>1</sup>, Valada Isabel<sup>1</sup>, Vera Loureiro<sup>1</sup>, Madalena Nogueira<sup>1</sup>

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**Objectives:** To compare ultrasound findings with clinical presentation and hysteroscopic findings in order to define the best management approach of endometrial polyps in premenopausal women.

**Methods:** Retrospective analysis of medical records from all premenopausal women assigned for a hysteroscopy examination after an ultrasound suggesting an endometrial polyp, during the year of 2017 in our institution. Women with no ultrasound report recorded were excluded.

**Results:** 90 premenopausal women fulfilled the study criteria. The mean age was 45 years, ranging from 21 to 54 years. As expected by the age of detection, endometrial polyps are more frequent in multiparous women. In our sample, only 44% of women were on contraception. Most polyps were asymptomatic and incidental findings on pelvic imaging (62%). According to the ultrasound features of polyps we could not find a correlation between the size and abnormal genital bleeding ( $r = 0,18$ ). The number of polyps also does not seem to be related to symptoms (isolated vs multiple: OR = 0,79, CI 95% (0,24-2,62);  $p = 0,69$ ). The correlation between ultrasound findings and hysteroscopy was 66%. However, when analyzing the histologic results, the value drops to 49%. Abnormal genital bleeding was only related to intracavitary pathology, including endometrial polyps, in 50% of woman. No malignancy was detected.

**Conclusions:** Most polyps in our sample were asymptomatic incidental findings. The prevalence appears to rise with increasing age with most cases diagnosed after the age 40. Symptomatic polyps should be removed either for relieving symptoms or detecting eventual malignancy. Size and number of polyps do not seem to be related with symptoms. Ultrasound follow up of endometrial polyps in premenopausal women might be an acceptable approach. Multicentric studies are needed for stronger evidence and surveillance timings definition.

## **SONOGRAPHIC VASCULARITY INDICES' STUDY IN ECTOPIC PREGNANCIES, AFTER THE METHOTREXATE THERAPY: CONTROL GROUP ANALYSIS**

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**Objectives:** The study of this group, aimed to evaluate the sonographic vascularity indices (pulsatility and resistance indices) around the gestational sac. The results would be compared to the vascularity indices around the ectopic pregnancy sac, in order to conclude whether these indices can be used as predictive values for the treatment course after methotrexate therapy.

**Methods:** The current study, is part of a prospective, clinic-laboratorial study, consisting of control and study groups. The control group consisted of 37 women, who presented with secondary amenorrhea, positive pregnancy test, with or without other pathology, and sonographic findings of intra-uterine pregnancy. The patients were evaluated for the gestational sac dimensions,  $\beta$ -hCG counts, and PI-RI indices.

**Results:** The control group has shown progressively increasing sac dimensions. The increase of the gestational sac diameter, was in almost linear correlation to the normal gestational age. The  $\beta$ -hCG values, were surely higher in this group. The correlation of the gestational sac with the  $\beta$ -hCG is definite, whereas the indices shown no statistical significance when compared between the control and the study groups.

**Conclusion:** The Pulsatility and Resistance Doppler Indices can be used for the observation of the pregnancy. Their changes can be an evaluation factor, in combination with  $\beta$ -hCG, in order to conclude if the pregnancy is progressing normally and predict its result. A future goal would be to conduct additional, larger women population studies, with a wider variety of demographic and clinical factors, so as to provide more data. This way, the vascularity indices could safely be used, in combination with  $\beta$ -hCG levels and the decrease of the gestational sac dimensions, as observation and evaluation criteria.

EP07

## OVARIAN CANCER IN YOUNG WOMEN – A CASE REPORT

Ana Carolina Da Graça Rocha<sup>1</sup>, Mariline D'Oliveira<sup>1</sup>, Marina Duarte<sup>1</sup>, Sofia Estevinho<sup>1</sup>, Catarina Ivanova<sup>1</sup>, José Fiel<sup>1</sup>, Madalena Nogueira<sup>1</sup>

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**Introduction:** Ovarian cancer has the highest mortality rate among gynecologic tumours. Less than 1% are found in premenopausal women under 30 years of age.

**Case report:** We report a case of a twenty-one-year-old female patient who presented with a self-palpable pelvic mass. At pelvic examination, a large, irregular, mobile, solid mass reaching the umbilical region was observed. An ultrasound scan showed a heterogeneous mass with 180x133x171mm, occupying the pelvic cavity, consisting of multiple septa and papillae, with intense vascularity confirmed during Doppler inspection. No ascites was found. CA125 and CA 19.9 markers were elevated. CT examination reported cystic formations in the pelvis, with multiple septa and solid components, probably related to a proliferative bilateral lesion, without evidence of retroperitoneal or iliopelvic adenopathies. The patient underwent a bilateral adnexectomy and frozen section examination which exposed a serous ovarian carcinoma with low malignant potential. The surgical staging was extended by an omentectomy, peritoneal biopsies and a sample for peritoneal fluid cytology. Histological examination showed a bilateral ovarian low grade serous carcinoma, with non invasive peritoneal implants, and presence of tumour cells in peritoneal fluid. The patient was discharged five days after surgery without complications. There was no evidence of recurrence 3 months' post-surgery. Genetic studies are ongoing and she is currently treated with combined hormonal therapy.

**Conclusion:** Serous tumours of low malignant potential treated with surgery alone are associated with a cure rate approaching 100% and no postoperative therapy is recommended. Nonetheless, regardless of age, reproductive women are at risk of developing an aggressive and deadly disease. More studies are needed regarding the effectiveness and application of screening tools in early ages.

EP08

## **PRENATAL DIAGNOSIS OF SUSPECTED ABDOMINAL PREGNANCY LATER NOTED TO BE AN ADVANCED GESTATION IN A BICORNUATE UTERUS**

Lisa Bazzett, Diomede Ntasumbumuyange, Olufolabi Olufolabi, Maria Small

The prevalence of abdominal pregnancies is high in sub-Saharan countries. We describe a case suspected to be an abdominal pregnancy prenatally, later noted to be an intrauterine pregnancy in the rudimentary horn of the bicornuate uterus.

31-year-old G5P0401 presented to a district hospital (DH) with an IUFD at 32 weeks. Her obstetric history was significant for 4 prior preterm births between 28-32 weeks. Her living child was born at 32 weeks gestation. Her pregnancies included a twin gestation and singletons between 28-32 weeks. She was diagnosed with IUFD at District Hospital and underwent induction of labor for 4 days with a combination of misoprostol and a Foley catheter without success. A follow up ultrasound demonstrated an empty uterus with normal endometrial stripe. The demised fetus was suspected to be extrauterine and anhydramnios was present. (Fig 1). She was transferred to the tertiary care center for further management of a suspected abdominal pregnancy. Final diagnosis was made at laparotomy where a small uterine horn was noted and pregnancy in the other horn. The uterine wall containing the pregnancy was necrotic. A macerated fetus of 1.2 Kg was extracted and the necrotic horn excised.

Conclusion: This case demonstrates sonographic challenges and pitfalls. The advanced gestational age at presentation, anhydramnios, and the single, empty uterine horn led to the diagnosis of abdominal pregnancy although the intrauterine pregnancy occurred in the setting of a Mullerian anomaly. MRI (not available in our setting) may have aided the diagnosis.

EP09

## SECOND HALF OF PREGNANCY VAGINAL BLEEDING AND PERINATAL OUTCOME

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**Objective:** The evaluation of factors associated with unexplained antepartum bleeding of unknown origin in singleton pregnancies during the second half of pregnancy and correlate unexplained hemorrhage with maternal and perinatal outcomes.

**Methods:** This is a retrospective observational study of all singleton pregnancies delivered at General Hospital of Chania. Antepartum, intrapartum and postpartum information were collected in all singleton pregnancies delivered after 30 weeks of pregnancy were included.

**Results:** Between January 2007 and December 2016 there were 7119 singleton deliveries including 6862 without and 361 (5%) with antepartum bleeding of unknown origin. Most of the women evaluated were between 18 and 35 years of age. A significantly greater number of the women with antepartum bleeding of unknown origin were Greek, had a history of miscarriages and smoked during current pregnancy compared with the women without antepartum bleeding of unknown origin. Women with pre-eclampsia or with gestational diabetes were less likely to have antepartum bleeding of unknown origin. The women with antepartum bleeding of unknown origin delivered at an earlier median gestational age (37 weeks versus 39 weeks), had a greater number of births prior to 37 weeks (40% versus 15%) with less inductions of labour (19% versus 27%), were more likely to require admission to an intermediate level or NICU and complicated by hyperbilirubinaemia, while those delivering at term underwent more inductions of labour, having more non elective caesarean deliveries (22% versus 16%), fewer spontaneous vaginal and assisted vaginal deliveries (70% versus 74%) and fewer elective caesarean deliveries (5% versus 10%), have smaller babies (2940gr versus 3325gr), compared with the non-antepartum bleeding of unknown origin group.

**Conclusions:** We demonstrated that pregnancies complicated by antepartum bleeding of unknown origin are at greater risk for labour inductions and preterm deliveries and their neonates are at risk of reduced birthweights, hyperbilirubinaemia and NICU admissions.

## EP10

# **FOLLOW UP OF PATIENTS AFTER SURGICAL TREATMENT OF ENDOMETRIOMAS. ULTRASOUND FINDINGS BEFORE AND AFTER THE SURGERY AND EVALUATION OF TREATMENT EFFICACY TO THEIR SYMPTOMS**

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Endometriosis is a benign disorder in which endometrial tissue is present in locations other than the uterine lining, most often found on pelvic peritoneum, ovaries and uterosacral ligaments. It's found almost exclusively in women of reproductive age, who can be asymptomatic or suffer of pelvic pain, dysmenorrhea, dyspareunia and infertility. Pelvic examination reveals tender nodules in the posterior vaginal fornix and pain upon uterus motion. A tender, cystic adnexal mass may represent an ovarian endometrioma. Endometriomas are recognizable by its characteristic ultrasound appearance. They are unilocular with regular internal walls and have a homogeneous internal echotexture resulting from the thick, old blood of which the cysts are composed (chocolate cysts). The blood within the cysts produces a moderately hyperechoic fluid, likened to ground glass. Color Doppler TVS often demonstrates pericystic, but not intracystic, flow. However, endometriosis is definitively diagnosed histologically during surgery. Objectives: The purpose of this study was to examine the ultrasound findings of women, who had been treated surgically for endometriomas, before and after surgery (cystectomy) and the efficacy of this treatment to their symptoms (pelvic pain). Methods: We have included 40 patients, with pelvic pain or asymptomatic, who were initially diagnosed by our institution with endometriomas through TVS and these findings were histologically confirmed. A follow-up took place after two years involving TVS-3D imaging and history taking in reference to symptoms of endometriomas. Results: There were no pathological ultrasound findings or relapse of the disease and the patients' medical history revealed an improvement of their symptoms as regarding to the pelvic pain. Conclusions: Endometriosis is a common disease in women in reproductive age. Although endometriomas have characteristic ultrasound findings, the primary method of diagnosis is laparoscopy. It is shown a recession of symptoms in surgically treated women and no relapse of the disease was observed with TVS.

EP11

## **THE SIGNIFICANCE OF GYNECOLOGICAL ULTRASOUND IN THE EARLY DIAGNOSIS OF COMPLICATIONS FOLLOWING IN VITRO FERTILIZATION**

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Heterotopic pregnancy is defined as the simultaneous presence of intrauterine and extrauterine pregnancy. This potentially fatal condition is infrequent in natural conception cycles, occurring in 1:30000 pregnancies. This rare entity is increasing with the wide spread of assisted reproductive techniques (ART) to the frequency of 1/500 for all pregnancies. Thus, gynecologists are more likely to encounter associated complications, especially in the emergency setting, including ovarian hyperstimulation syndrome (OHSS), ovarian torsion, ectopic and heterotopic pregnancy. Our aim is to increase obstetrician's awareness in the first trimester early ultrasound, when predisposing factors such as IVF are known, even in the presence of an intrauterine gestational sac. Early identification and initiation of appropriate therapy is critical to avoid severe complications and adverse obstetrical outcome. Consequently, physicians performing the sonographic examination of such patients should evaluate thoroughly the adnexa. Transvaginal ultrasound performed by an experienced sonographer has high sensitivity in establishing the early diagnosis of heterotopic pregnancy after IVF.

Herein, we report a case of pregnant woman who was referred with the initial diagnosis of mild to moderate OHSS. Conscientious ultrasound revealed an heterotopic triplet pregnancy (twin intrauterine and left tubal ectopic pregnancy) complicated with OHSS. The ectopic pregnancy was treated by laparotomy and excision of the left salpinx and the OHSS was treated with conservative management. The patient delivered a healthy infant at 37 weeks of gestation.

EP12

## **A CASE OF NEAR TERM PREGNANCY IN RUDIMENTARY HORN IN UNICORNUATE UTERUS**

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Congenital anomalies of the uterus are often asymptomatic and therefore unrecognized. Uterine anomalies occur in 2 to 4 percent of fertile females with normal outcome. The prevalence is higher among females with poor reproductive outcome. Lateral fusion defects are the most common type of Müllerian defects. The unicornuate uterus is an example of asymptomatic lateral fusion defect. We report a case of 32 years old caucasian lady, gravid 3 para 0+2, presenting with symptoms of preterm labor at 34 weeks of gestation. The diagnosis of Müllerian anomaly was confirmed by ultrasonography. Laparotomy was done and the rudimentary horn was excised after delivery of fetus. The need for a great index of suspicion with highlighting the role of ultrasonography for precise accurate diagnosis.

Consent: An informed written consent was obtained from the patient for publication of paper and required images.

## EP13

# EVALUATION OF SONOGRAPHIC FEATURES OF PLACENTA ACCRETA: A RETROSPECTIVE REVIEW OF A SERIES OF 21 PATIENTS

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### Introduction

Placenta praevia accreta represents a potential life-threatening condition during pregnancy and delivery. Ultrasonography, a non-invasive and cost-effective scan, is the main diagnostic tool, but there are no internationally established sonographic criteria in order to identify those pregnant women with placenta praevia who are at higher risk for complications. Various sonographic features with different specificity and sensitivity have been described in the literature but there is no golden standard. Therefore, further studies can lead to the establishment of specific sonographic signs that could accurate the diagnosis.

### Objective

To examine the diagnostic accuracy of various sonographic features that could imply the underlying pathology of abnormal placental implantation

### Methods

We retrospectively analyzed saved images and video loops of 21 obstetrical cases of placenta praevia that have been treated in our department. Part of these women underwent transabdominal hysterectomy (14/21) due to invasion of placenta and therefore massive haemorrhage. The saved data have been examined in order to identify one or more of the following sonographic signs: loss of clear zone, myometrial thinning, placental lacunae, bladder wall interruption, placental bulge, focal exophytic mass, uterovesical hypervascularity, subplacental hypervascularity, bridging vessels, placental lacunae feeder vessels, suspicion of parametrial invasion and cervical invasion.

### Discussion and Conclusions

Myometrial thinning and bridging vessels were obvious in the majority of the cases that underwent transabdominal hysterectomy (78% and 82% respectively). Cervical invasion was the only sonographic feature that was highly correlated to the risk of TAH and / or the difficulty to control hemorrhage during cesarian section (100%). Despite the limited number of data, we strongly support that cervical invasion is an accurate marker during ultrasound examination of women with placenta accreta.

EA14

## **DOLICHOCEPHALY, A RACIAL ANTHROPOMETRIC CHARACTERISTIC, DATING BACK TO THE ANCIENT GREEKS**

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**Introduction:** Dolichocephaly is defined as a skull of a cephalic index of 75 or less. A relatively long anterior-posterior cranial distance is commonly seen in infants and may be associated with other abnormalities or it may just be a normal variation. Brachycephaly, on the contrary, is defined as a skull of a cephalic index of 82 or more. Mesocephaly is defined as a skull of a cephalic index 76-81.

**AIM:** The aim of this study was to investigate historical data about dolichocephaly as a normal head shape.

**Methods:** Greek and international literature extensive search.

**Results:** Mediterraneans were characterized by dolichocephaly, with long skull, narrow face and nose, dark hair and eyes and lean body mass. According to the facial index they were characterized leptoprosopic (90,0-94,9) and mesoprosopic (85,0-89,9). Cretans, Aegeans and Peloponnesians (especially in Lakonia and Argolida) presented high percentages of dolichocephaly. In the contrary, in Thraki and Epirus the main head shape was brachycephaly. The mean cranial index in Greece in 1884 was 81,2, a combination of dolichocephaly and brachycephaly. In East Serbia and East Macedonia, the predominant skull types was dolichocephaly and mesocephaly. In West Serbia, West Macedonia and West Greece the predominant skull types was brachycephaly and mesocephaly. Slavian skulls were characterized by brachycephaly, with a long face and long beaky nose. Examples of "Mediterranean" type skulls are met in ancient Greek statues, like the statues of Pericles, Aristotelis, Sophocles, Irodotos, Aristofanis, Theophrastos and Xenofon. On the contrary, Plato and Socrates skulls are more brachycephalic (cranial index of 84). Even higher is the cranial index of Eyripidis (cranial index of 86).

**Conclusion:** Dolichocephaly may be a normal variation and should not always be a suspicious sign of pathology, especially in areas that this is historically the usual skull type. Physical anthropology indicates a racial continuity of dolichocephaly in Greece from the ancient years to modern days, with a remarkable similarity in craniofacial morphology among Mediterraneans.

## **PRENATAL DIAGNOSIS OF FETAL FACIAL ABNORMALITIES: 3D/4D IS A BETTER CHOICE?**

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**Objectives:** Chromosomal anomalies are present in a proportion of 32-77% of the fetuses with facial congenital malformations. The objective of our study was to identify the feasibility of applying known measures of fetal profile landmark and to compare with 3D/4D acquisition of fetal face in order to diagnose facial abnormalities in the second trimester fetuses. We conducted a prospective study between 2014-2017 in two university departments of obstetric and gynecology from Bucharest .

**Methods:** The volumes scan were obtained in second trimester. We obtained the correct midsagittal position of fetal profile and we drawn two lines, the frontal profile line and the mandibulomaxillary line. We determined the resulted angle. Also, we use 3D ultrasound examination either multiplanar or surface rendering reconstruction mode which is one of the ways to obtain an excellent initially target volume of organ investigated. A total of 199 stored volumes were reviewed

**Results:** There were enrolled 199 fetuses. We identified 3 cases with isolated cleft lip and 9 cases with cleft lip associated with cleft palate. In cases of cleft lip associated with cleft palate the angle varies between 33,4° and 37,8°. Using the frontal line profile, we also identified micrognathia in 3 cases. We used 3D/ 4D multiplanar reconstruction in the midsagittal plane and axial plane, then in the coronal plane by surface rendering mode. View of fetal face with 3D ultrasound is beneficial because of no need of concerning about fetal movements and by obtaining multiplanar can be achieved the exact location of the malformations

**Conclusions:** Detection of fetal craniofacial abnormalities during pregnancy has multiple benefits. Both techniques are feasible but with 3 D the acquisition is faster, with better specification of fetal facial anatomy and with the advantages to help parents understanding of possible malformations which may affect the fetus.

## EP16

# ECTOPIC PREGNANCY AND MATERNAL MORBIDITY AND MORTALITY IN SUB-SAHARAN AFRICA: A SYSTEMATIC APPROACH

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**Introduction/Background:** Maternal mortality is one of the major causes of death in women of childbearing age, its highest rate being reported in countries of the developing world, especially those of sub-Saharan Africa. This may be attributed to a lack of awareness of the population, of trained personnel for monitoring and caring during pregnancy as well as of inadequate health facilities. The purpose of this systematic review is to estimate the incidence of EP among the population of sub-Saharan Africa and assess maternal morbidity and mortality rates of the disease.

**Methods:** Pubmed and Scopus databases were searched systematically. Thirty-five relevant articles were retrieved and included in the present review.

**Results:** In Nigeria, the reported EP fatality rate ranges from 0 to 5.9%. Studies conducted in other countries in sub-Saharan Africa found that the same rate ranged from 0 to 3.4%. The overall incidence of EP among the studies varied from 0.27% to 4.62%. The majority of women with EP (65.84% to 98.9%) were committed for hospital care with rupture. The highest incidence of EP was observed among the age groups 20-24 and 25-29. In the majority of studies, previous history of EP was reported up to 10% among women with EP. The highest incidence of EP was recorded among nulliparous women, while the majority of patients with EP were referred to hospital with anemia.

**Conclusion:** The fatality rate of women with EP in developing countries remains high. Immediate action is therefore deemed essential for early diagnosis and treatment of EP, in the interests of reducing EP mortality for in itself estimated to be feasible. Until the risk factors leading to EP are better understood, early diagnosis and appropriate treatment will be the most effective means of reducing morbidity and EP-related mortality.

EP17

## **ASSESSMENT OF FERTILITY FOLLOWING METHOTREXATE TREATMENT FOR ECTOPIC PREGNANCY**

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**OBJECTIVES:** Retrospective analysis to assess the fertility of women who underwent medical management of ectopic pregnancy with methotrexate.

**METHODS:** From January 2017, women who visited the early pregnancy unit due to ectopic pregnancy were assessed for eligibility for medical management. Methotrexate was administered in women between the 6th and 10th week gestation with  $\beta$ hCG level  $<2,500$  mIU/ml. All women were re-examined 6 months post treatment to assess their fertility by measuring the Antral Follicle Count (AFC) by transvaginal ultrasound.

**RESULTS:** In the 15-month period, a total of 55 cases of ectopic pregnancy were seen in the early pregnancy unit. 32 cases were managed surgically, 5 cases conservatively and 18 cases were managed medically with methotrexate. Of the 18 cases managed with methotrexate only 2 cases required administration of a second dose of methotrexate due to limited response. 3 pregnancies occurred, of which, 1 resulted in live birth, one case is currently in the 28th week of gestation and the third in the 10th week gestation with no complications. The antral follicle count of the remaining 15 cases was assessed 6 months post treatment and was found to be within normal limits.

**CONCLUSIONS:** From our experience in the early pregnancy unit, medical management of ectopic pregnancy with methotrexate does not seem to affect the future fertility according to the post treatment antral follicle count measured by transvaginal ultrasound.

## **EVALUATION OF FIRST-TRIMESTER MATERNAL SERUM PREGNANCY-ASSOCIATED PLASMA PROTEIN-A (PAPP-A) FOR THE PREDICTION OF PREECLAMPSIA: A SYSTEMATIC REVIEW**

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**Objectives:** Preeclampsia is the leading cause of maternal morbidity and mortality and early diagnosis of high-risk pregnancies is of great importance for close surveillance to reduce the complications of the syndrome. The present study is a systematic review aiming to identify the performance characteristics of first trimester (11+0 to 13+6) maternal serum PAPP-A levels for the prediction of preeclampsia.

**Methods:** A systematic review based on literature search of electronic databases was performed in order to identify published studies relevant to the subject. The systematic review yielded 539 citations and after screening the title and abstract and removing duplicate citations, 72 were assessed on full text, while 13 studies were finally included in the analysis.

**Results:** The mean sensitivity of maternal PAPP-A serum concentration in the prediction of preeclampsia was relatively low: 14.1% at fixed specificity of 95% (false positive rate 5%) and 22.5% at fixed specificity of 90% (false positive rate 10%). The mean sensitivity of PAPP-A serum level was higher for the prediction of early onset preeclampsia (EOPE) (<34 weeks of gestation): 19.3% with specificity 95%, and 24.1% with specificity 90%. The predictive value of first trimester serum PAPP-A was significantly increased when combined with maternal factors as well as other biochemical (e.g. Placental Growth Factor, PIGF) and biophysical biomarkers (e.g. Uterine Artery Pulsatility Index, UtAPI). In contrast, the results regarding the prediction of late onset preeclampsia (LOPE) (>34 weeks of gestation) showed maternal characteristics to be the major contributor for the prediction of LOPE and no significant improvement in the overall prediction was observed by the addition of PAPP-A.

**Conclusions:** The results of this systematic review demonstrated that the performance of low first trimester maternal serum PAPP-A for the prediction of preeclampsia, when used as a single marker, is poor, with higher predictive ability for EOPE (<34 weeks).

## EP19

# DILEMMA OF PERINEURAL CYST MIMICKING ADNEXAL CYST ON TRANSVAGINAL SONOGRAPHY: VOILÀ TRACE THE NERVE

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### CASE

A 43-year-old lady came for a pelvic sonogram as a component of general health screening. She had two children born by normal vaginal deliveries and was asymptomatic at presentation. Transvaginal sonogram was performed on Samsung RS80A equipment using 3-12 MHz endocavitary probe. It revealed normal uterus and ovaries. In addition, anechoic lesions of size 5.3 x 2.2 cm and 3.2 x 1.7 cm were seen in the right and left adnexa respectively. These cystic lesions contained linear internal echogenicities and lacked vascularity (Figure 1a,b). As the cysts were separate from the uterus and ovaries and situated more posteriorly, there was a strong suspicion of these being perineural cysts. Perineural cysts are meningeal cysts formed within the nerve root sheath and are seen commonly in the lumbosacral region. These contain nerve fibres in their wall or cavity. Keeping in mind the possible origin of these cysts, an attempt was made to trace any nerve in continuity with them. A round hypoechoic structure could be traced in continuity with the cystic lesions denoting a sacral nerve in cross-section (Figure 1c). This confirmed the diagnosis of perineural cyst. The patient consulted her physician and opted for conservative management. Follow up sonogram after three months did not reveal any interval change in the lesions.

### TEACHING POINT

Our case illustrates the following sonologic features of perineural cyst:

- Cystic lesion separate from uterus and ovaries, in a more posterior location
- Intraluminal linear echogenicities due to neural fibres
- Continuity with a nerve

Recognition of a nerve in continuity with an adnexal cyst on ultrasound can confirm the diagnosis of a perineural cyst and guide appropriate management.

## EP20

### **PRENATAL DIAGNOSIS OF GALEN VEIN ANEURYSM. A CASE REPORT.**

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**Objectives:** Galen's veins malformation characterized by dilatation of the venous structures of the galenic system and results with an arteriovenous shunting of blood. Two third of cases can be diagnosed after 34 weeks of gestation and one third of cases diagnosed in second trimester. Cardiac malformation, cystic hygroma and hydrops associated with Galen 's veins aneurysm. The severity of cardiomegaly and cardiac decompensation depends on the size and complexity of the vein of Galen aneurysm.

**Methods:** We presented a case of 28-year-old G3, Para2 patient who was referred to ultrasound for suggested polihydramnios at 38 weeks of pregnancy. Her history was unremarkable. Two previous ultrasounds, has done in other hospital at the 20 and 32 weeks of gestation demonstrated a live singleton fetus without any structural or morphological abnormalities. Ultrasound 2D and Doppler image revealed, in the axial section of the cranium the presence of a well-defined fluid-filled oval structure measuring 24 x 19 mm with a high velocity venous flow, located posteriorly above the thalamus. Pulsed Doppler of the cystic lesion and its elongation throughout all its extension demonstrated. Ultrasound examination shows polyhydramnios AFI 26,8 cm, fetal cardiomegaly and dilated superior vena cava due to blood overload caused by the arteriovenous malformation of Galen vein.

**Results:** Women was delivered at 38 weeks, 3040gr male fetus was immediately transferred to the neonatal resuscitation department of Children hospital because of severe cardiac decompensation.

Ultrasound performed after delivery showed an aneurysmal sac of 25 x 20mm, located behind the thalamus. Antenatal diagnosis was also confirmed with MRI after delivery.

**Conclusions:** High resolution ultrasound and Doppler examination helps to prenatal diagnosis arteriovenouse malformation of fetus. Embolization has been suggested to child, however according to data outcome of Galen's vein aneurysm cases with cardiac decompensation is poor.

## **MULTIPLE NABOTHIAN CYSTS, AS A PREDICTIVE FACTOR FOR DYSPLASIA, PRE-MALIGNANT AND MALIGNANT CONDITIONS OF THE UTERINE CERVIX AND THE ENDOMETRIUM: STUDY GROUP ANALYSIS**

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**Objectives:** The analysis of the study group of the current research, is evaluating the presence of multiple Nabothian cysts, in order to conclude whether they are associated with dysplasias or malignancies of the cervix or endometrium.

**Methods:** The current analysis is part of a prospective, control – study group research, conducted for a PhD thesis. The Study group consisted of 84 women, who either were admitted for gynaecological conditions, and had shown multiple Nabothian cysts, or who had shown the finding after a random imaging technique for other reasons. They went under cytological examination with an Endogyn device, as well as histological examination after D&C or hysterectomy.

**Results:** The cytological examination with Endogyn Pipelle had shown 11 women with multiple Nabothian cysts, who appeared to suffer a malignant or pre-malignant condition. Out of them, 8 had also shown a malignant condition during the histological examination. The association of malignancies with the women's weight, although positive, it was not statistically significant. The histology results had shown adenoCa, endometrioid Ca, leiomyosarcoma, epithelial Ca and serro-papilloma Ca.

**Conclusion:** Single Nabothian cysts are considered to be a non-symptomatic and random finding, without other pathological or malignant morbidities. Despite the benign character of the Nabothian cysts, sometimes they mimic or show malignant conditions. Multiple Nabothian cysts on the other hand, are often associated with pathological conditions, due to inflammatory reactions. The current research aimed to evaluate multiple Nabothian cysts, as a possible result of a malignancy in the cervix, or the endometrium, as the endocervix and the endometrium are a continuous layer inside the uterus. Therefore, a future aim could be to evaluate them cytologically and histologically, in order to become observatory and diagnostic indices. This way, they may guide the future management of women, and become a valuable screening method in everyday praxis.

EP22

## ULTRASONOGRAPHIC STUDY OF ENDOMETRIOID CYSTS SUSPECTED FOR OVARIAN CANCER

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**Objective:** To study the sonographic characteristics of suspected malignant transformation in endometrioid cysts, taking into consideration that there is a molecular, biological and epidemiological evidence to suggest an association between endometriosis and ovarian cancer, which has an estimated prevalence of 0.3–0.8%.

**Methods:** Women with a histological diagnosis of ovarian endometrioid cysts, borderline tumors arising in endometrioid cysts and carcinoma arising in endometrioid cysts, preoperatively examined sonographically, were included in this retrospective study. Gray-scale and Doppler ultrasound characteristics of the endometrioid cysts were compared with those of the borderline tumors and primary cancers arising in endometrioid cysts.

**Results:** Of 32 cases collected for the study, 30 lesions were classified before surgery as endometrioid cysts, one as borderline tumors arising in endometrioid cysts and one as carcinoma arising in endometrioid cysts. Women with malignant findings (borderline ovarian tumors and cancers) were older (median age 55 (range, 30–75) years) than those with benign endometrioid cysts (median age 33 years) and the prevalence of postmenopausal status was significantly higher in malignant cases. All malignant tumors were characterized by the presence of solid tissue (benign tumors 14%). The prevalence of solid tissue with positive Doppler signals was higher in malignant tumors than in benign cysts (7.3%). Papillary projections were a more frequent sonographic finding among malignant lesions (81.5%) than among benign endometrioid cysts (14.3%) and power Doppler signals were detected within the projections in 92.3% and 37.1% of malignant and benign lesions, respectively. The examination correctly diagnosed 94.8% of benign lesions as benign and 93.3% of malignant lesions as malignant.

**Conclusion:** Borderline tumors and carcinomas arising in endometrioid cysts show a vascularized solid component at ultrasound examination and might not represent a specifically difficult category of ovarian masses for assessment by an expert ultrasound examiner compared with the general population of ovarian masses.

EP23

## **SINGLE VENTRICLE HEART DEFECT IN A FETUS WITH NORMAL KARYOTYPE**

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A case of a 28 years old pregnant woman, gravida II, para I, who presented in our unit for the second trimester analytical scan is reported. The patient missed the 1st trimester tests for chromosomal abnormalities (Nuchal translucency and blood test). The fetus had normal development and no other defect than the cardiac was noted. In particular a single ventricle, left sided was noted. The stomach was visible. The inferior and superior venae cavae discharged blood in an enlarged atrium without clear separation between left and right. A single ventricle with unclear morphological characters resembling to the left ventricle was visible (absence of the moderator band, smooth wall) combined with a single valve with significant regurgitation. A large vessel derived from the single ventricle following the course of the aorta and a small vessel with two smaller branches was noted. The flow in the ductus arteriosus was reversed. Overall, the exam concluded that the single ventricle with significant valve deficiency and hypo plastic pulmonary artery was present. After counseling, amniocentesis was performed and the karyotype was normal. The patient was referred to a Cardiac Surgery Unit and after counseling she decided to determine the pregnancy.

Single ventricle defects are among the most complex congenital heart problems and affect approximately five out of 100.000 births. In case of birth, the neonates are selected for either single ventricle surgical palliation or heart transplantation. Five years survival rate varies among the subtypes of the defect. Factors affecting survival include birth era and weight, other fetal defects, maternal ethnicity and residence.

EP24

## **A CASE REPORT OF: SIMPLE GASTROSCHISIS WITH PROTRUSION OF FETAL UTERUS**

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Gastroschisis is a full thickness paraumbilical abdominal wall defect usually associated with evisceration of intestine. Many hypotheses were proposed to explain pathogenesis, all involve either defective formation or disruption of body wall during embryonic life with subsequent herniation of bowel. Prevalence of gastroschisis is 3 to 4 per 10.000 live births/fetal deaths/stillbirths/pregnancy terminations. The prenatal diagnosis is important in terms of giving birth in optimal conditions. I report a case of 28 years old lady, PG, 36 weeks, cephalic in labor. Antenatal ultrasound revealed presence of protrusion of both bowel ( cauliflower like ) and fetal uterine fundus with both fetal adnexa. Spontaneous vaginal delivery was performed. Wrapping the bowel with sterile saline dressings covered with plastic wrap.

Consent: An informed written consent was obtained from the patient for publication of paper and required images.

## **SALINE INFUSION SONOGRAPHY (SIS), A VALUABLE TECHNIQUE IN THE EVALUATION OF UNEXPLAINED UTERINE BLEEDING**

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**AIM:** To compare the diagnostic accuracy between saline infusion sonography (SIS) and routine transvaginal ultrasound in the evaluation of unexplained uterine bleeding.

**MATERIAL AND METHOD:** Our study included 120 women with unexplained uterine bleeding between 2006-2009 in our department. Participants aged 44-55 years old. All women underwent a baseline transvaginal ultrasound followed by saline infusion sonography. Finding of both methods were noted. The final diagnosis was made by endometrial biopsy (curettage).

**RESULTS:** Routine transvaginal ultrasound diagnosed 12 cases with endometrial polyp, 10 cases with submucosal fibroid, 2 cases with adhesions, 1 case of congenital malformation, 2 cases with atrophy and 5 cases of endometrial hyperplasia. Saline infusion sonography diagnosed 15 cases with endometrial polyp, 10 cases with submucosal fibroid, 6 cases with adhesions, 1 case of congenital malformation, 2 cases with atrophy and 5 cases of endometrial hyperplasia. In three women SIS could not be performed because of cervical stenosis. Both saline infusion sonography and routine transvaginal ultrasound were well tolerated by women.

**CONCLUSIONS:** Many endometrial abnormalities, especially endometrial polyps or adhesions not seen adequately with routine transvaginal ultrasound may be revealed in detail with saline infusion sonography. SIS is a relatively short procedure that provides an excellent view of the endometrial cavity and a valuable technique for the evaluation of unexplained uterine bleeding. Our finding reflects the finding of the literature, in which the sensitivity of saline infusion sonography was 98-99% and the sensitivity of routine transvaginal ultrasound was 93-96%.

## **A CASE REPORT OF DIAGNOSIS OF HEMATOMETRA IN A RUDIMENTARY HORN OF UTERUS UNICORNIS IN ADOLESCENT GIRL**

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### **BACKGROUND:**

Müllerian duct anomalies is a rare cause of an urgent condition in gynecology. A unicornuate uterus with non-communicating contralateral rudimentary horn containing endometrium is the most common malformation presented with clinical symptoms. Diagnosis can be difficult as primary dysmenorrhea is usually the first symptom often ignored by physicians.

We report a case of the a 14-year-old virgin adolescent girl with severe dysmenorrhea and hematometra in a rudimentary horn of uterus.

### **CASE PRESENTATION:**

A patient was admitted to abdominal surgery ward with severe abdominal pain, nausea and vomiting. The complaints were first reported after menarche and the pain repeatedly was getting worse after every menses. A patient was referred to a gynecologist and abdominal ultrasonography was performed. Ultrasound findings: retroflexed uterus, uterine body on the right 4,6x3,0cm in size, the thickness of the endometrium 5mm, another uterine body on the left 6,3x3,8cm in size with uterine cavity expanded 26mm by echonegative material; ovaries normal in size and structure. Magnetic resonance imaging was performed to confirm diagnosis. A unicornuate retroverted uterus leaning to the right, an oval misshaped 5,8x4,5x5,0cm formation with uneven inner wall and non-communicating cavity filled with blood on the left were identified. Laparoscopy was performed confirming the left rudimentary horn 6cm in size with left adnexa attached. Resection of the rudimentary horn and the left ovarian tube was performed. The postoperative period was uneventful and the patient was discharged from the hospital the next day.

Pic.1–ultrasound view of right uterus, Pic.2–ultrasound view of hematometra in a rudimentary horn, Pic.3–MRI view.

### **CONCLUSION:**

Female genital tract anomalies such as rudimentary uterine horn with functional endometrium should be considered in patients with dysmenorrhea during the first year of menarche. A thorough medical history of the symptoms followed by ultrasound imaging are the main methods to confirm the diagnosis.

## FETAL GROWTH RESTRICTION AND PERINATAL OUTCOME

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**Objectives:** The objectives of our retrospective study were to evaluate the perinatal outcomes of fetuses with asymmetric intrauterine growth restriction, by comparing two categories of fetuses, one with estimated weight below 3rd percentiles and the other group between the 3rd and 10th percentiles.

**Methods:** It was a retrospective observational study during year 2016, in which we analyzed the informations from medical records of pregnant women who attended the two Departments of Obstetrics Gynecology from Sf Pantelimon Clinical Emergency Hospital and Sf Ioan Clinical Emergency Hospital.

**Results:** We selected 41 patients, the fetuses were diagnosed between 28 and 32 weeks of gestation with asymmetric intrauterine growth restriction. The mean age of patients was 31,5 years. Among fetuses with intrauterine growth restriction, 67,5% were with estimated weight below 3rd percentiles and 32,5% between 3rd and 10th centiles. The mean gestational age was 35,4 weeks with 69,9% delivered by cesarean section. From this group delivered by cesarean section, 41,5% was due to fetal distress. The mean birth weight was 2125 grams, 51 % of neonates weighed between 1500-2500 grams and 9% below 1500 grams. The APGAR score at 1 min was above 7 in 75,4% of cases and at 5 min above 7 in 85,5% of cases. There was no significant difference in relation to gestational age at birth, mode of delivery, birth weight, between the two categories of fetuses, but fetuses in the group of 3rd and 10th centiles of weight will have a higher APGAR score at 1 min and at 5 min

**Conclusions:** Fetuses below the 3rd percentile correlate with adverse perinatal outcomes

## EP28

# DIAGNOSIS AND TREATMENT OF MUCINOUS APPENDICEAL NEOPLASM. A CASE REPORT

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**Objectives:** Appendiceal mucocèles (AM) are rare lesions characterized by a distended and mucus-filled appendix. Most of these AM are asymptomatic but can become symptomatic because of inflammation, presenting as an acute appendicitis or by causing nonspecific abdominal pain.

**Methods:** We presented a case of a 64-year-old female patient, in menopause 20 years, who didn't have any complains and came to our unit for mandatory annual insurance check in. Standard laboratory examination showed mild leukocytosis with middle increase of neutrophil count.

The patient underwent an ultrasound examination. The uterus and both ovaries were normal. There was a multilocular lesion in the right iliac fossa measuring 5,0 x 3,9 x 7,5 cm., with acoustic shadow, without vascularization – 1 score, with thick walls, giving the impression of solid tissue, with variable echogenicity, with incomplete septum. No free fluid in pouch of Douglas.

All tumor markers were normal.

**Results:** The patient was operated. Taking into consideration the possibility of a malignant neoplasm the open approach was decided. An 5,0 x 4,0 x 8,0 cm mucocele of the appendix with right sided hydrosalpinx attached to appendix, was found. There were no other significant findings. Frozen section was performed at the time of the operation. And the report was low-grade appendiceal mucinous neoplasm, right fallopian tube hydrosalpinx. The appendectomy with right side salpingectomy, resection of the appendicular mesenteric fat and peritoneal biopsy were performed.

The histological examination revealed a low-grade mucinous appendiceal neoplasm without presence of mucinous peritoneal carcinomatosis. Medical oncology did not recommend adjuvant chemotherapy. Follow-up with ultrasound scans 4 month later and also CEA and CA19-9 tumor marker surveillance were unremarkable.

**Conclusions:** Ultrasound is valuable for the detection of AM and can be easily performed. Although the lesion size is not associated with malignancy AM smaller than 2 cm are rarely malignant.

## ENDOMETRIAL EVALUATION IN WOMEN WITHOUT ABNORMAL UTERINE BLEEDING

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**Objectives:** To assess the diagnostic value of transvaginal sonographic (TVS) measurement of endometrial thickness for diagnosing focal intrauterine pathology in women without abnormal uterine bleeding (AUB) and to answer at the clinical dilemma as to which strategy should be chosen when a thick endometrium is discovered and what is the real value of these endometrial thickness measurement in the same women.

**Methods:** A random selection of 560 women aged 20-74 years were invited to participate and 229 women were eligible and accepted inclusion (143 pre- and 86 postmenopausal). During the check-ups, all participants were asked about demographic characteristics, medical histories, history of abdominal or pelvic surgery, and current medical conditions/medications, including a history of cancer. Information regarding menstrual patterns, reproductive history, history of contraceptive and hormone use, and menopausal status were obtained from a direct interview during TVS examination.

The women underwent TVS measurement of endometrial thickness. Diagnostic dilation and curettage with histopathology was performed when focal intrauterine pathology was suspected. We excluded women with AUB, a scan that was not in the follicular phase and users of sequential hormone therapy or selective estrogen receptor modulators.

**Results:** The 143 premenopausal women included in the study were aged 20-54 years and the 86 postmenopausal women were 45–74 years. Focal intrauterine pathology was confirmed in 7.69% (11/143) of premenopausal and 16.28% (14/86) of postmenopausal women and included 19 cases of polyps, five of submucosal myomas and one of polypoidal growing endometrial cancer.

**Conclusions:** In women without AUB, TVS measurement of endometrial thickness is a poor diagnostic test, but is apparently efficacious in excluding focal intrauterine pathology, especially in postmenopausal women. The 4-5mm threshold conventionally used to exclude endometrial malignancy in women with postmenopausal bleeding is not transferable to women without AUB for excluding focal intrauterine pathology.

EP30

## **IMPLICATIONS OF FOLLOWING UP ASYMPTOMATIC SIMPLE OVARIAN CYSTS 1-3 CM IN SIZE IN POSTMENOPAUSAL WOMEN WITH ULTRASOUND SCANS**

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### **Objectives**

The incidence of asymptomatic simple ovarian cysts is 5-17%, of which 95-99% are benign. Studies have shown that when simple cysts are followed-up, one year later 50% remained the same and 30% disappeared but at two years, 30% remained the same and 50% disappeared. National UK guidelines were updated in 2016 to change the recommendation for simple cysts between one and three centimetres in asymptomatic postmenopausal women from being discharged to being followed-up with ultrasound scans six and twelve months later.

### **Methods**

Reports of all pelvic ultrasound scans performed in Torbay Hospital between November 2015 and 2017 were searched. Search terms included 'simple cyst' and 'ovarian'. Reports of women who were postmenopausal and had a cyst that was simple in nature and only measuring between one and three centimetres were included. Reports of women whose menopausal status was unknown and had another cyst that was complex or more than 3 centimetres were excluded. The additional cost of these scans was calculated using the fees for a private scan.

### **Results**

576 reports were yielded, 334 were excluded and thus, 242 reports were included in the final study over a two-year period. On average in one year, 121 women would need two scans each, thus 242 extra scans would be needed. The fees for a private scan in this hospital are £63 for hospital fees and £155 for reporting radiologist/ practitioner fees, leading to a total cost of £215 per scan. This makes the total cost of these scans £52030.

### **Conclusion**

The increased cost and workload given the lack of strong evidence and low probability of transformation to malignancy suggests that the inclusion of this new recommendation in local guidelines is not warranted. Careful consideration of patient demographics locally, especially age, is needed prior to applying the recommendation in your hospital.

## **ASSOCIATION OF BDNF NEUROTROPHIC FACTOR LEVELS IN THE AMNIOTIC FLUID OF 2ND TRIMESTER GESTATIONS WITH FETAL DEVELOPMENT.**

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BDNF is broadly expressed in the developing fetal brain and the BDNF-stimulated intracellular signaling is critical for neuronal morphogenesis, plasticity, protection and survival. BDNF also exerts a major role during implantation, placental development and fetal growth.

Amniotic fluid samples were collected from women underwent amniocentesis early in the second trimester. All pregnancies were subsequently divided into three categories according the fetal birth weight, namely the AGA (appropriate for gestational age) group, the SGA (small for gestational age) group and the LGA (large for gestational age) group.

Higher BDNF levels were measured in the amniotic fluid of fetuses with impaired growth compared to normal growth fetuses. Both intrauterine growth restriction and fetal macrosomia are characterized by notably higher amniotic fluid levels of BDNF (mean value of 36,3 pg/ml and 35,7 pg/ml respectively) compared to normal growth fetuses (mean value of 32,7 pg/ml). However, this difference is statistically significant ( $p$ -value  $< 0,05$ ) at the SGA fetuses in the extremes of distribution (below the 3rd centile).

According to our findings, it seems like an adapting mechanism accelerating fetal brain development and maturation is induced by growth restriction. Fetal macrosomia also correlates with elevated BDNF levels, forming a bimodal depiction of BDNF amniotic fluid levels as the fetal growth percentile increases (graph). The latter may be the reflection of the advanced fetal and placental mass.

Growth restricted fetuses manifest evidence of fetal compromise and hypoxia is the main pathophysiological mechanism underneath. In hypoxia-induced inflammatory process, BDNF promotes microglial proliferation and phagocytic activity in vitro and increases the number of phagocytotic microglia and activated microglia. TNF- $\alpha$  has been proven to exacerbate cerebral injury of ischemia, while IL-10, an anti-inflammatory cytokine, has a neuroprotective role in ischemia. BDNF can suppress TNF- $\alpha$  and its mRNA expression, while increasing IL-10 and its mRNA expression.

## EP32

### **PRIMARY TUBAL CARCINOMA IN A YOUNG WOMEN. A CASE REPORT.**

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**OBJECTIVE:** Primary fallopian tube carcinoma is a rare. Primary peritoneal serous carcinoma is thought to arise from the peritoneum, but recent data suggest that the fallopian tube may be a source of many of peritoneal and ovarian carcinomatosis. Often chronic tubal inflammation is associated with the primary carcinoma of the fallopian tube.

**METHOS:** We present a case of 29-year-old women, who was admitted in gynecological department in December 2017 with lower abdominal and pelvic pain. Patient in 2012 and 2016 was delivered by cesarean section. During the bimanual examination, the normal size of the movable uterus and normal adnexa were detected. Preoperative transvaginal (TVS) ultrasound examination find a normal size ovary, sausage-shaped cystic structure 4.7 x 4.4 x 3.9 cm on the right side and a small ovoid solid component 2,1x1,2cm and 1,9 x1,3cm in tubal angles of the uterus. A solid component was moderately vascularized on color Doppler ultrasound.

CT scan were carried out and identified normal size ovaries with some calcification on the surface, disseminated, peptic, on the surface of the pelvic peritoneum. No other special findings were found.

**RESULTS:** Diagnostic laparoscopy was performed. A multiple biopsy of suspicion lesions have been taken from surface of tubes, ovaries, peritoneum, colon, omentum and parametrical tissue. Frozen section and final histological examination combined with immunohistochemical investigation has confirmed primary tubal low grade G1 serous carcinoma. A patient referred for future tretment.

**CONCLUSIONS:** In practice often, primary fallopian tube cancers are misdiagnosed as primary ovarian cancers. Experienced pathologist can helps to correlate the ultrasound findings and to differentiate primary fallopian carcinoma. According to literature ultrasound findings of a vascularized sausage-shaped structure with an ovoid solid components in the pelvis with moderate or sever vascularization should raise the suspicion of tubal cancer, especially if normal ovarian tissue identified.

EP33

## TUBEROUS SCLEROSIS IN DYCHORIONIC DIAMNIOTIC TWINS, A CASE REPORT

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Ultrasound finding of cardiac rhabdomyoma is usually the earliest sign of tuberous sclerosis (TS) during fetal period, preceding the detection of brain or kidney lesions. TS is caused by mutations in either TSC1 or the TSC2 gene. One third of the cases shows autosomal dominant inheritance while the remaining two thirds is result of a de-novo mutation. A finding of TS in twins is extremely rare. After the extensive MEDLINE search, we found only three cases, two being in dizygotic twins and one in monozygotic.

A 23 years old woman was referred to our Clinical hospital at 31 weeks of gestation with suspected multiple tumors in hearts of both dichorionic diamniotic twins. In the first twin, three hyperechogenic masses were detected by fetal echocardiography in both ventricles and left atrium, respectively. In the second twin a hyperechogenic mass at the medial part of the interventricular septum was shown using the same method. Both hearts were structurally normal, without congenital heart defects, and the hyperechogenic masses did not obstruct the blood flow. Further ultrasound examination showed multiple subependymal nodes in the lateral ventricles of brains of both twins. As the findings were highly suspicious to TS, the patient was referred to the clinical geneticist who found sufficient clinical criteria for diagnosis of TS, in twins' father, father's sister, mother and grandmother. Family history revealed nephrectomies due to malignant renal tumors, but no epilepsy. The father was referred for further examination as well as TSC1 and TSC2 gene sequencing. The patient had uneventful vaginal delivery at 36 weeks of gestation, and the twins were handled to the neonatologist for further evaluation.

## APPLICATION OF IT IMAGE PROCESSING METHODS FOR PALATINE BONE ASSESSMENT AT 11 TO 13(+) WEEKS OF GESTATION

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**Objective:** To describe a new computer-based technique to isolate the shape of the foetal palate visible in the mid-sagittal plane from a static ultrasound image that is routinely used to measure nuchal translucency.

**Methods:** This is a retrospective interpretation of images of the mid-sagittal view of the foetal face at 11-13(+6) weeks of gestation in 1 case of cleft lip and palate (CLP) and 1 normal control. The images were subjected to the pattern analysis process. A proprietary algorithm was based on binaryzation and segmentation processes supported by uses of a marker indicating the palate structure. The obtained palate bone image is enhanced by the information in the generated echogenicity histogram of the examined structure. Analysis of the histogram and palate shapes obtained at different thresholds of echogenicity allowed us to examine the continuity of the palate bone.

**Results:** Proprietary software was applied and for case with CLP, different forms of palatine bone was recorded in comparison with a normal anatomy foetus. An image of a continuous palatine bone was showed at a threshold of 128 in normal control, whereas a continuous structure of the palatine bone was not observed in case with the CLP, even at a level of 128, where the surrounding structures were visible.

**Figure 1.** Histogram and extracted shape of the palate for subsequent echogenicity thresholds in A) a foetus with normal anatomy (CRL=65.4mm; NT=1.4mm) and B) a foetus with CLP (CRL=57.8mm; NT=5.7mm)

**Conclusions:** The application of computer-based pattern analysis to a two-dimensional frozen image is a new approach in palatine bone assessment as early as the first trimester. This technique may represent a helpful tool for physicians and could assist in the diagnostic process of cleft palate.

EP35

## THE ROLE OF 3-DIMENSIONAL ULTRASOUND IN GYNECOLOGY

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Ultrasound is now an integral part of any gynaecological assessment. Using ultrasound, most gynaecological conditions are diagnosed much easier and with great accuracy during a single outpatient visit. The introduction of threedimensional (3D) ultrasound has the potential of making a huge impact on the management of gynaecological patients. To make the maximum benefit of this modality, clinicians need to be trained on how to utilize his technique and to be made aware of all the potential uses and capabilities of the machines' software, which are built in the relatively new technology of 3D. In this review article, we discuss how to obtain optimum 3D images and discuss some of the possible clinical applications of this technique. We will discuss in details the three major steps in obtaining 3D images, which are volume acquisition, volume display and volume analysis, in addition to summarizing some of the clinical applications of 3D ultrasound in gynaecology.

## **PRENATAL DIAGNOSIS OF PENTALOGY OF CANTRELL IN THE FIRST TRIMESTER OF PREGNANCY**

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Pentalogy of Cantrell has an estimated incidence of 1 per 65000 live births and is characterized of five congenital anomalies: intracardiac defect, midline anterior ventral wall defect, a defect of anterior diaphragm, a cleft distal sternum and a defect of apical pericardium with communication into the peritoneum. The major hallmark of this anomaly is an omphalocele associated with ectopia cordis. Etiology is unknown but a defect on the lateral mesoderm during the early stage of pregnancy is the most accepted hypothesis. The complex nature of this malformation makes it fatal unless there is prompt surgical intervention. The prognosis of each case is related to the severity of the diaphragmatic, pericardial, and intracardiac defects.

We report the prenatal diagnosis of Cantrell syndrome in the first trimester of pregnancy. A 28-years-old primigravida was referred for the first trimester screening program for Down syndrome. The sonographic examination revealed a midline supraumbilical abdominal wall defect including herniated liver and ectopia cordis with a large omphalocele containing the intestines and cystic hygroma was incidentally identified at 12th week of gestation. A transvaginal sonography examination revealed a severe lumbosacral scoliosis. The parents were informed about the poor prognosis of the syndrome and multistage corrective surgical procedures and after counseling they decided to terminate the pregnancy.

Prenatal diagnosis in the first trimester is simple if ectopia cordis and a large omphalocele are detected with 2D ultrasonography. However sometimes this may be difficult particularly in minor forms of ectopia cordis such as anterior, partial or transient displacement of the heart. 2D ultrasonography is commonly sufficient in diagnosis, but 3D scanning provides more anatomical details being useful for prenatal counseling and postnatal therapeutic planning.

EA37

## INCREASED NUCHAL TRANSLUCENCY AS A SCREENING TOOL FOR CHROMOSOMAL AND HEART ABNORMALITY PRENATAL PREDICTION

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**AIM:** To evaluate the positive predictive value of combined Nuchal Translucency and  $\beta$ -hCG/PAPP-A test as a screening tool for prenatal prediction of chromosomal or heart abnormality.

**MATERIAL-METHOD:** Our study included 1501 pregnant women examined at the Obstetrical clinic of Pyrgos Hospital in Greece, during the last five years. All women underwent sonographic measurement of CRL and Nuchal Translucency (NT) and subsequently serum measurement of biochemical markers. In most cases of trisomy 21  $\beta$ -hCG serum levels are elevated and PAPP-A serum levels are lower. The combined test cut-off risk was set to 1/250. All pathological results were referred for karyotype analysis, after amniocentesis or chorionic villous sampling.

**RESULTS:** The percentage of pathological results was 1,2% (18 incidents). Eleven of those cases were diagnosed with chromosomal abnormality and had undergone termination of pregnancy. From the rest seven cases with normal karyotypes, two cases were diagnosed with severe heart defects and were also terminated and two cases died in utero. Only 3 cases continued until birth.

**CONCLUSION:** The combined test of Nuchal Translucency and biochemical markers is an effective screening method for chromosomal abnormality. Taking into account the correlation of increased NT measurements with congenital heart defects, the test is characterized by high positive predictive value of a negative pregnancy outcome.

## A

Adutaviciene, Aiste	EP26	Angelou, Kyveli	EP16
Ahmed, Badreldeen	EP35	Anifantaki, Fotini	EP16
Akrivis, Christodoulos	EP11, EP23, EP25	Antonakopoulos, Nikos	EP01, EP14, EP25, EP37, EP31
Ananyn, Anahit	EP32	Argyridis, Savvas	EP18
Anastasiadi, Zoi	EP23, EP25	Asimakopoulos, George	EP01, EP36, EP37

## B

Babloyan, Babloyan	EP20	Beglaryan, Gagik	EP20
Babloyan, Syuzanna	EP04, EP28, EP32	Beglaryan, Izabella	EP20
Balaouras, Dimitrios	EP06, EP21	Blachopoulou, Sofia	EP01, EP37
Banacu, Mihai	EP15, EP27	Blagaic, Vladimir	EP33
Bazzett, Lisa	EP08	Bohiltea, Roxana	EP15
BAZZETT- MATABELE, Lisa	OC03	Bumbuliene, Zana	EP26

## C

Calin, Dan	EP15, EP27	Christofi, Nicodemos	EP18
Chionis, Athanasios	EP16	Chronopoulou, Athanasia	EP01, EP36, EP37
Chitzios, Dimitrios	EP06, EP21	Chrysafis, Ioannis	OC1

## D

Dalakli, Erminia	OC05	Dimitrakopoulos, Spyridon	EP01, EP14, EP25, EP37
Daniilidis, Angelos	EP06, EP21	Dimitriu, Mihai	EP15, EP27
Daskalakis, George	EP09, EP22, EP29	D'Oliveira, Mariline	EP05, EP07
Daskalakis, Georgios	EP13	Domali, Ekaterini	EP10, EP13
Dedeic, Dubravka	EP33	Domali , Ekaterini	EP17
Deligeoroglou, Efthymios	EP31	Drakakis, Petros	EP10, EP13
Deligeoroglou, Eythymios	EP18, OC05	Drakakis, Petros	EP17
Despotidi, Athanasia	EP01, EP36, EP25	Duarte, Marina	EP07

## E

Ebrahim, Hanaa Economides, Demetrios	EP09, EP22, EP29 EP03	Eltaieb , Ebtihal Estevinho, Sofia	EP12, EP24 EP07
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## F

Fiel, José	EP07
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## G

Georgopoulos, Anastasios Giannakopoulos, Konstantinos	OC01 EP16	Gonser, Markus	OC02
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## H

Hecher, Kurt	OC02	Hovsepyan, Lilit	EP04, EP20, EP28, EP32
Horvat, Gordana Hovhannisyan, Tatev	EP33 EP04, EP28	Huras, Hubert	EP34

## I

Iavazzo, Christos	EP31	Ionescu, Cringu Antoniou	EP15, EP27
Idnani, Nimarta Iliodromiti, Zoe	EP30 EP18, OC05	Isabel, Valada Ivanova, Catarina	EP05 EP07

## J

Jurek, Janusz	EP34
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## K

Kalandaridou, Sophia Kalantaridou, Sophia Karamanidis, Dimitrios Kathopoulos, Nikolaos Kaur, Ladbans Kkese, Aikaterini Klee, Andreas	EP31 EP18, OC05 OC01 EP10 EP02, EP19 EP09, EP22, EP29 OC02	Kolibianakis, Efstratios Kontezakis, Petros Korkontzelos, Ioannis Koutras, Antonios Koutras, Antonis Koutroumanis, Pelopidas Koutsougeras, Gerasimos	OC04 EP09, EP22, EP29 EP11, EP23, EP25 EP17 EP10 EP13 OC01
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Klimasenko, Jelena EP26  
Koliantzaki, Sofia EP01, EP14, EP36,  
EA25

Kriaras, Andreas EP09, EP22, EP29

## L

Lainas, George OC04

Loufopoulos, EP06, EP21  
Aristotelis

Lainas, Tryfon OC04  
Liaskos, Antonios EC01, EC36, EC25

Loureiro, Vera EP05  
Loutradis, EP10, EP13  
Dimitrios

Lolos, Markos EP16

Loutradis, EP17  
Dimitrios

## M

Makris, Andreas OC04

Mavromatidis, EP06, EP21  
Georgios

Malakyan, Zhirair EP04, EP28

Mazmanyanyan, EP32  
Izabella

Mamas, Eudoxia EP17  
Mastorakos, EP18, EP31  
George

Mina, Maria EP11, EP25  
Mpesarat, EP10  
Alexandros

Matei, Alexandra EP15, EP27

Mpourmpos, EP11, EP23, EP25  
Konstantinos

## N

Nasreldin, EP12  
Mohamed

Nicolaou, Panayiotis OC01

Natsios, Aggelos EP11, EP23, EP25  
Navolan, Dan EP15, EP27

Nogueira, Madalena EP05, EP07  
NTASUMBUMUYANGE, EP08, OC03  
Diomedes

## O

OLUFOLABI, EP08  
OLUFOLABI

## P

Panagiota, Eirini EP09, EP22, EP29  
Papageorghiou, EP18, EP31  
Aris

Ples, Liana EP15, EP27  
Pogosyan, EP04  
Andranik

Papasotiriou, EP31  
Ioannis

Popescu, Ina EP15, EP27

Papasozomenou, EP06  
Panagiota

Pousias, Serafeim EP10, EP13

Pappa, Christina EP11, EP23

Protopapas, EP10  
Athanasios

## R

Rapi, Anna	EP11, EP23, EP25	Rosenberg, Theophilos	EP16
Rocha, Ana Carolina	EP05	RULISA, Stephen	OC03
Rocha, Ana Carolina Da Graça	EP07		

## S

Salakos, Nikolaos	EP18	SMALL, Maria	OC03
Saleh, Ahmed	EP35	Sorras, Konstantinos	EP25
Saltamavros, Alexandros	EP25	Spiliopoulos, Dimitrios	EP03
SEBAJURI, Jean	OC03	Spyropoulou, Kyriaki	EP25
Marie Vianney		Stavrou , Sofoklis	EP17
Sfontouris, Ioannis	OC04	Stepanyan, Artem	EP04
Sharma, Amit	EP02	Stepanyan, Artem	EP28
Sidiropoulos, Nikolaos	EP25		
Singh, Divya	EP02, EP19	Stratoudakis, George	EP09, EP22, EP29
Small, Maria	EP08		

## T

Tantanasis, Theocharis	EP06, EP21	Tavares de Sousa, Manuela	OC02
Tarlatzis, Basil	OC04	Tsimeki, Maria	EP13
Tarres, Elias	OC01	Tsirkas, Panagiotis	EP11
Tatsi, Konstantina	EP11, EP23, EP25	Tsitsis, Basileios	EP01, EP36, EP25

## V

Venetis, Christos	OC04	Vlachioti, Aikaterini	EP11, EP23, EP25
Vicente, Ana Rita	EP05	Vrachnis, Nikolaos	EP18, OC05, EP31
Vlachadis, Nikolaos	EP18, OC05		

## W

Wójtowicz, Anna	EP34	Wójtowicz, Wojciech	EP34
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## Z

Zafrakas, Menelaos	EP21	Zagaliki, Anastasia	EP23
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