OC13.07

Maternal cardiac function in women deemed high-risk for pre-eclampsia with subsequent normal and adverse outcomes

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Objectives: The aim of this study was to compare maternal cardiac function in a cohort of women who were high risk for early (<34 weeks) pre-eclampsia (ePET) and subsequently had normal or adverse outcomes.

Methods: This was a prospective study of maternal cardiac function in women deemed high risk of ePET by first trimester screening at 12 weeks. Serial echocardiographic assessment (Accuvix XG, Samsung Medison with P2-4BA probe, Seoul, Korea), of maternal cardiac output (CO) and total peripheral resistance (TPR) were calculated at 14, 18, 24 and 30 weeks. Pregnancy outcomes were recorded and defined as being normal or adverse (the development of hypertension, delivery of an infant of low birthweight (<5th centile) or preterm birth (<37 weeks' gestation). The cardiovascular parameters were compared between the two groups.

Results: 31 women who had a high risk ePET screen participated; 18 with a normal and 13 (42%) with an adverse pregnancy outcome. The adverse outcome group included 3 (9.7%) pre-eclampsia, 3 (9.7%), gestational hypertension, 4 (12.9%) preterm birth and 4 (12.9%) infants with low birthweight. Mean CO (L/min) values were significantly lower in those with an adverse outcome; 4.99 vs 4.17: P=0.04 at 14 weeks and 5.35 vs 4.61: P<0.01 at 30 weeks gestation. The mean TPR (dyne/sec/cm-5) was significantly higher in the adverse outcome group at 14 weeks (1431 vs. 1722: P=0.04), 24 weeks (1316 vs. 1577: P<0.01) and 30 weeks (1323 vs. 1658: P<0.01) gestation.

Conclusions: Women who are high risk for ePET and subsequently have an abnormal outcome have evidence of abnormal cardiac function with lower CO and higher TPR as early as 14 weeks gestation. These parameters may be useful as a second tier screening tool for pregnancies deemed 'high risk' by first trimester screening and may help reduce the false positive rate and increase the positive predictive value of the screening process.

OC14: CHARACTERISING OVARIAN PATHOLOGY

OC14.01

Early diagnosis in ovarian cancer: role of transvaginal color Doppler ultrasound. A fourteen year experience

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Objectives: Ovarian cancer mortality remains high mainly due to late diagnosis. Since 1999 we have performed color Doppler transvaginal (CDTV) ultrasound as a form of screening for ovarian cancer. The purpose of this paper is to assess the efficiency of CDTV ultrasound to detect early stages of ovarian cancer.

Methods: Screening CDTV ultrasound has been annually performed in asymptomatic women without a family history of ovarian cancer. Women with abnormal screens had repeat tests after 4–6 weeks. If the finding remitted, CDTV ultrasound follow-up at one year was performed. If the abnormality persisted, the study was completed with tumor markers, CT scan and laparoscopy.

Results: A total of 244.427 CDTV ultrasound screens were performed in 104.873 women. In 55 patients a malignant tumor was diagnosed and histologically confirmed. In twenty-two of them (44.8%), a borderline lesion was detected. The mean age of the patients was 47 years (±12). Forty one (74.5%) of these tumors were in stage I (including two cases of Fallopian tube carcinoma), 3 in stage II, 9 in stage III and 2 lesions detected were metastasis. A 66 % of patients had normal levels of CA 125, measured after the detection of the lesions by CDTV ultrasound study.

Conclusions: Although consensus about the benefits of transvaginal ultrasound as a screening procedure is not unanimous, our data suggest that tumors detected in patients screened with transvaginal ultrasound are detected at earlier stages. Additional randomized studies are needed to support these preliminary findings.

OC14.02

***The additive value of HE4 novel tumor marker to the IOTA simple rules in the management of ovarian masses**

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Objectives: To determine the additive diagnostic value of HE4 tumor marker to the IOTA simple ultrasonographic (US) morphologic scoring system in the management of ovarian masses.

Methods: Imaging properties of ovarian masses were evaluated preoperatively using the IOTA M and B rules. According to the US findings and the IOTA simple rules three groups were made: 1. B group: only B rules were applicable, 2. M group: only M rules were applicable, 3. E group: both M and B rules were applicable, expert's opinion needed. US results were matched with the preoperative CA125 and HE4 levels and the histological findings.

Results: patients with ovarian masses were involved in the analysis (average: 42.10yrs, 13-83yrs). Among the 107 cases (50.95%, average: 38.39yrs, 13-78yrs) of the B group two turned to be malignant (1.87%). HE4 was elevated in 8, CA125 in 66, both of them in 3 cases. 74 patients fulfilled the requirements for M-rules (35.24%, average: 49.43yrs, 15-83yrs,), 42 proved to be malignant (56.76%). HE4 was increased in 34, CA125 in 55, both of them in 31 cases. E group was formed by 29 cases (13.81%, range: 16-81yrs, average: 37.10yrs) of which 5 showed malignancy (17.24%). Where the IOTA simple rules were applied US alone had a a sensitivity of 48.84% and a specificity of 76.64% which increased to 93.40% adding HE4 evaluation to the diagnostic algorithm. PPV also increased from 0.56 to 0.79 in those cases where HE4 was used together with US. Pattern recognition showed a NPV of 0.92 and a PPV of 0.26 which was raised to 1.0 as HE4 was used additionally. Specicity of combining pattern recognition and HE4 evaluation proved to be 100% in this study.

Conclusions: IOTA simple rules can be used effectively to discriminate between benign and malignant ovarian masses in more than 85% of the cases. Masses with complex morphology often need pattern recognition which can call for other methods increasing both the predictive values and specificity of the method. HE4 can be used effectively to increase the specificity of the diagnostic ability of US.

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