Dual markers and uterine artery doppler for early prediction of HDP and FGR-the way forward.

Alka C. Bapat*

Department of Obstetrics and Gynecology, Bombay Hospital Institute of Medical Sciences, Mumbai, India

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Description

The incidence of Hypertensive disorders in pregnancy is about 10% in antenatal women around the world, while that of FGR is between 3 to 7%. These conditions are associated with a high rate of perinatal morbidity and mortality, posing a need for their prediction early during pregnancy.

Pathophysiology of HDP and FGR has its bearing early during pregnancy. Thus, conducting screening tests at 11-13 weeks can help identify a high-risk group. In our study, Ut Artery Doppler was linked to the booking tests (Nuchal scan and Dual markers). Patients with first antenatal visit before 10 weeks gestation underwent routine NT scan between 11–13 weeks with bilateral Uterine Artery doppler-Resistivity Index assessment of the maternal uterine arteries. The placental volume was assessed. Serum dual biomarker test (β hCG and PAPP-A) was performed after this scan and analysed as Multiples of Median (MoM). Patients were followed up during the antenatal period as per the routine protocol. Blood pressure was recorded at every ANC visit till 2 weeks after delivery. Neonatal anthropometry was recorded at birth.

Our study revealed, the mean values of PAPP-A levels in normotensive group as 1.32 ± 0.91 MoM while that of PIH groups were 0.68 ± 0.39 MoM, showing statistically significant difference. The serum PAPP-A levels showed statistically significant difference between Non-IUGR and IUGR groups (1.24 ± 0.87 MoM and 0.46 ± 0.20 MoM respectively).

Our study observes PAPP-A level as a good indicator for possible prediction of HDP and FGR. Similar studies carried out by other authors across the globe have suggested the utility of many blood parameters along with Doppler techniques to optimise the management plan by early prediction of HDP and FGR. These studies help in initiating therapies as early as 12–14 weeks into the pregnancy to prevent potential complications.

The level of Bone Mineral Density (BMD) was evaluated in relation to allergy presence in young adult women living in Slovakia. A study cohort consisted of 140 women with allergy and 92 women without allergy (19-30 years; mean age=22.14 ± 2.28). All women were educated about the research and their written consent was obtained before enrolling into the study. Data were collected by interviewing women individually using a validated questionnaire (WHO step wise approach to chronic disease risk factor surveillance 2014). They were examined for the life-style and chronic diseases, including allergy. The bone ultrasound mini-omni (sunlight, Israel) was used to assess BMD at one-third distal radius of the nondominant hand. The parameters of speed of sound (SOS) (m/s), T-score and Z-score were used for the analysis. Linear regression models were used to determine differences in BMD between women with and without allergy controlling for age, calcium and vitamin D intake.

In the adjusted models, women with allergy had significantly lower SOS (mean ± SD, 4088 ± 102 vs. 4121 ± 104; P=0.009), lower T-score (-0.83 ± 1.04 vs. -0.50 ± 1.07; P=0.012) and lower Z-score (-0.19 1.03 *vs*. 0.13 ± 1.06; P=0.014), when compared with healthy women. Linear regression analysis also revealed that calcium and vitamin D intake were not associated with BMD in our sample (P>0.05). Women with allergy have a significant risk of reduced BMD.

*Correspondence to

Dr. Alka C. Bapat

Department of Obstetrics and Gynecology

Bombay Hospital Institute of Medical Sciences

Mumbai

India

E-mail: alkabapat@gmail.com

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