



FIRST TRIMESTER OF PREGNANCY 3D POWER DOPPLER PLACENTAL VOLUME AND VASCULAR FLOW INDICES IN THE EARLY PREDICTION OF PREECLAMPSIA.

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Background: placental maldevelopment plays a crucial role in the pathogenesis of many pregnancy complications. Power Doppler Placental Volume and Vascular Flow Indices are of value to assess early pregnancy problems.

Aim of the study: To estimate the value of first-trimester 3D-placental volume and vascular flow indices in the prediction of preeclampsia.

Patients and Methods: 100 women at risk factor for preeclampsia were enrolled in this prospective cohort study in El-Minia maternity hospital, Egypt. Included women were chosen as regards to specific inclusion and exclusion criteria. They were subjected to Full history taking, General Examination, Abdominal and Local examination, routine laboratory investigations and abdominal Ultrasonography. Females included in this study were subjected to transabdominal Doppler ultrasonography for assessment of placental volume measurements, pulsatility index (PI) and resistivity index (RI) in both uterine arteries, and assessment of the placental volume and its vascular indices (VI, FI, VFI).

Results: 2 cases were excluded because they had abortion, 22 cases developed preeclampsia,. The results revealed that Placental volume (PV), Vascularization index (VI), Flow index (FI) and Vascularization flow index (VFI) was significantly ($P < 0.05$ and 0.01) lower in Preeclampsia group than the normal pregnancy group. Also, the results indicated that Pulsatility index (PI) and Resistance index (RI), were significantly ($P < 0.01$) higher in pre-eclampsic group of women than the normal pregnancy women.

Conclusion: A significant differences was found between preeclampsia patients and normal pregnancy as regard uterine artery Doppler indices and the placental volume and its vascular indices in first-trimester and 3d power Doppler can be used for early prediction of adverse pregnancy outcomes and complications of uteroplacental insufficiency.

Keywords: Placental Volume, Vascular indices, 3d Power Doppler, Preeclampsia.

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