Predictive value of junctional zone thickness and 3-dimensional uterine power Doppler in recurrent unexplained pregnancy loss: a new diagnostic tool

Mona Aboulghar, Ahmed T. Hashem, Sherine H. Gad Allah, Ali Abdelhafeez, Reham Fouad, Marwa Sharaf, Amira Dieb, Dept of Obs & Gyn, Cairo University

Introduction

Fifty % of recurrent pregnancy losses (RPL) are unexplained. Uterine receptivity is affected by vascular changes in the Junctional Zone (JZ) at implantation site. JZ changes in thickness with hormonal changes, so it might have a role in unexplained RPL cases.

Objective

Was to evaluate whether the JZ has a role in the pathogenesis of pregnancy loss in unexplained RPL cases. This was compared to fertile cases in combination with power Doppler assessment of subendometrial blood flow and uterine artery vascular indices.

Methodology

The study was conducted at the Cairo Fetal Medicine Unit, Cairo University, over 18 months including 100 participants aged 18-42 years. The study group included cases with history of two or more unexplained RPL. The control group included fertile patients with at least one live birth. TVS was performed for both groups, in the midluteal phase and the examination included the following: 2D,3D, power Doppler on the subendometrium, uterine artery average pulsatility index (UAPI), vascularity index(VI), flow index(FI), vascular flow index(VFI), using Virtual Organ Computer- Aided Analysis (VOCAL) and average JZ thickness.

Conclusion

Thickened JZ, in addition to impaired subendometrial vascularity and uterine artery high pulsatility index, could be prospective diagnostic tools for screening and prediction of pregnancy loss. Being the first study done on the JZ in unexplained RPL, it could be a new modality for these cases. Further prospective studies are needed.