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Antenatal and postnatal umbilical coiling index

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Aim: To investigate the relationship between antenatal Umbilical Coiling Index (UCI) and postnatal UCI in normal pregnant parturients and complicated with Gestational Diabetes Mellitus (GDM).

Methods: This prospective study consisted of parturients that were divided into two groups (normal pregnancy and GDM). Ultrasound scan of umbilical cord was performed at 2nd and 3rd trimesters. Postnatal UCI evaluation was performed within 24 hours after delivery. Gestational diabetes was confirmed at 24–28 weeks of gestation by one-step strategy.

Results: At 18–23 WG, the frequency distribution (10th, 90th percentiles, mean±SD) of the UCI in the GDM and normal groups were (0.13, 0.66, 0.32±0.19) and (0.18, 0.74, 0.4±0.31), respectively. These values were (0.12, 0.4, 0.25±0.11) in the GDM group at 37–41 WG and (0.17, 0.43, 0.29±0.11) in the normal group. The mean for postnatal UCI was 0.21±0.12 in the GDM group, and 0.21±0.09 in the normal pregnancy (P=0.61). Postnatal UCI was more related to antenatal UCI at 37–41 WG in both groups. A significant association at 18–23 WG was found between GDM/normal groups and UCI categorization (hypocoiling <10th, normocoiling 10th–90th and hypercoiling >90th) (P=0.001). However, hypocoiling was significantly more frequent in GDM than normal in both antenatal evaluations (P<0.001, P=0.006). In the GDM group, a significant association was found between antenatal UCI and postnatal UCI categories (P=0.004).

Conclusions: Antenatal UCI in GDM group were lower in comparison with normal pregnancy. GDM does not affect postnatal UCI. The most abnormal pattern of coiling in GDM was hypocoiling in both trimesters.

Biography

Laily Najafi is pursuing her PhD in Clinical Diabetes at Iran University of Medical Sciences. She has completed the General Physician from Shiraz University of Medical Sciences. She has published more than 20 papers in reputed journals.

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