

RISK OF FETAL ANOMALIES AND ITS PREVALENCE BY ULTRASONOGRAPHY IN PREGNANCIES COMPLICATED BY PRE-GESTATIONAL DIABETES MELLITUS : A JOURNEY FROM SWEET TO SOUR

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Diabetes mellitus is being diagnosed in 0.3% of women at the reproductive stage of their life. Prevalence in Sri Lanka is around 10% of the urban population. The prevention of congenital malformations in the newborns of pre-gestational diabetic mothers still constitutes one of the main problems in this group of patients in Sri Lanka. Objectives: 1. To analyze the prevalence of fetal malformations in pre-gestational diabetic pregnancies compared to uncomplicated non diabetic pregnancies. To evaluate the clinical utility of a comprehensive program inclusive of clinical features, glycemic assessment and prenatal detailed ultrasound with fetal echocardiography for congenital anomalies in pregnancies complicated by diabetes mellitus. To determine the occurrence of fetal anomalies among the patients with high HbA1c values. Results: Anomalies were identified in 97 of 1636 (6%) fetuses and neonates. These results were compared with age and parity matched non diabetic control group of 1661 routine antenatal and postnatal mothers out of which 34 (2.1%) had anomalies. This was significant $p = 0.008$ at (95% CI 0.77 – 5.03). Among the 97 cases of fetal anomalies, 60% had HbA1c levels greater than 8%. The controls had normal HbA1c less than 6.5%. Controls had a significantly less incidence of congenital anomalies ($p < 0.000$). Recommendations and conclusion: This study illustrates the view that pregestational diabetic pregnancy is a strong risk factor for alterations in fetal development leading to fetal malformations. This study also demonstrate the advantage of a comprehensive program to detect fetal anomalies in pregnancies complicated by pre-gestational diabetes mellitus focusing further attention towards detecting fetal cardiac abnormalities. The study also shows a clear relationship between the occurrence of major fetal anomalies and higher HbA1c levels greater than 8%. **This may imply that these patients' glycemic levels were not under control during the time of organogenesis and also they continued to have badly controlled GDM till the time of detection of the fetal anomalies.**