EVALUATION OF OXIDATIVE STRESS AND PROINFLAMMATORY CYTOKINES IN GESTATIONAL DIABETES MELLITUS AND THEIR CORRELATION WITH PREGNANCY OUTCOME

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IntroductionThe prevalence of Gestational Diabetes Mellitus (GDM) in India is ever increasing. Proinflammatory cytokines including Tumor Necrosing factor alfa (TNF-α), Interleukin6 (IL-6) and Interleukin8 (IL-8) through their ability to interfere with insulin signaling; have been implicated in insulin resistance in Type 2 Diabetes Mellitus. **Objective of the study** To estimate Proinflammatory Cytokines TNF-α, IL-6, IL-8 and anti-oxidants such as Glutathione Peroxidase (GTX), Super oxide dismutase (SOD), uric acid and Bilirubin in GDM and correlate with pregnancy outcome. **Results** Pregnant women attending antenatal clinic at JSS Hospital were screened for GDM using DIPSI criteria. The subjects with elevated glucose values were grouped into cases (n = 30) and with normal values were taken as controls (n =30). The mean Uric acid level in cases were 4.53 whereas in control group 3.13mg% and mean value of TNF-a in cases 6.06 and controls 2.81pg/ml. Antioxidants superoxide dismutase and glutathione peroxidase were markedly decreased with mean value of 4979.21 and 13.68 in cases and 9625.10 and 15.86 in controls respectively. The proinflammatory cytokines IL -6 (Mean 2.96 vs 2.88) and IL-8 (Mean 7.76 vs 2.60) were increased in subjects with gestational diabetes mellitus. Those with GDM developed preeclampsia (5 %), Preterm labour (2 %) and Polyhydromnios (5 %). Foetal complications like macrosomia (13.3 %) and intra uterine death (3.3%) observed in GDM mothers. **Conclusion** Pregnancy is susceptible to oxidative stress. GDM worsens the oxidative stress and weakens the anti oxidant state. The study showed that TNF-α is significantly associated with preeclampsia in GDM (p0.026). **Key words:** Cytokines, Glucose intolerance, IUD, Macrosomia, Preeclampsia, Preterm-labor