

Association of Tumor Growth Factor- β and Interferon- γ Serum Levels With Insulin Resistance in Normal Pregnancy.

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Abstract

Pregnancy is related to change in glucose metabolism and insulin production. The aim of our study was to determine the association of serum IFN- γ and TGF- β levels with insulin resistance during normal pregnancy. This cross sectional study was carried out on 97 healthy pregnant (in different trimesters) and 28 healthy non-pregnant women. Serum TGF- β and IFN- γ level were measured by ELISA method. Pregnant women had high level TGF- β and low level IFN- γ as compared non-pregnant women. Maternal serum TGF- β concentration significantly increased in third trimester as compared first and second trimester of pregnancy. Maternal serum IFN- γ concentration significantly decreased in third trimester as compared first and second trimester of pregnancy. Pregnant women exhibited higher score of HOMA IR as compared non-pregnant women. There were association between gestational age with body mass index ($r=0.28$, $P=0.005$), TGF- β ($r=0.45$, $P<0.001$) and IFN- γ ($r=-0.50$, $P<0.001$). There was significant association between Insulin resistance and TGF- β ($r=0.17$, $p=0.05$). Our findings suggest that changes in maternal cytokine level in healthy pregnant women were anti-inflammatory. Furthermore, Tumor Growth Factor- β appears has a role in induction insulin resistance in healthy pregnant women. However, further studies needed to evaluate role of different cytokines on insulin resistance in normal pregnancy.