SERUM ADIPOCYTE FATTY ACID BINDING PROTEIN (AFABP) LEVEL IN DIFFERENT TRIMESTERS OF GESTATIONAL DIABETES MELLITUS

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Background: Adipocyte fatty acid binding proteins (AFABP) are inflammatory adipocytokines released from adipose tissue. It is thought that it is related to insulin indices and pathogenesis of gestational diabetes mellitus (GDM). Their level may change during pregnancy with the increase of gestational age. This study aimed to determine the level of serum AFABP in mothers with GDM and normal glucose tolerance (NGT) in all trimesters to see whether they vary among different trimesters as well as between GDM and NGT. **Methods:** This cross-sectional study included 81 pregnant women with GDM (25, 25 & 31 in 1st, 2nd and 3rd trimesters respectively) and almost an equal number of NGT after challenging by three sample 75gm oral glucose tolerance test (OGTT) following WHO-2013 criteria in the Endocrinology department of BSMMU. AFABP and insulin were measured from serum samples obtained in fasting state during OGTT. Glucose was measured by glucose oxidase, insulin concentration by chemiluminescent immunoassay, and AFABP by sandwich ELISA. Equations of homeostatic model assessment (HOMA) were used to calculate insulin indices. **Results:** AFABP [0.61(0.42, 1.52) vs. 0.80(0.43, 1.70), median; p=0.235] was statistically similar in GDM and NGT group. Similarly, AFABP showed no significant difference in all trimesters [0.54 (0.37, 0.89) vs. 0.79 (0.46, 1.78), p=1.34; 0.56(0.38, 1.70) vs. 0.76(0.34, 1.47), p=0.903; 0.65(0.46, 2.13) vs. 0.84(0.44, 2.48), p= 0.763 in 1st, 2nd and 3rd trimester respectively] in GDM than NGT. Moreover, AFABP showed no significant within-group difference (p=NS for all) among three trimesters of pregnancy in the GDM and NGT groups. AFABP was not significantly correlated with age, gestational age, BMI, glucose values and insulin indices in GDM or NGT (p= NS for all). By binary logistic regression, AFABP [OR (95%CI; 1.084(0.834-1.408), p=0.547] was not an independent predictor for GDM when adjusted for important demographic (age, gestational weeks, multigravida), clinical (BMI), and biochemical (HOMA-IR) covariates. Among the covariates, multigravida (p=0.019) and HOMA-IR (p <0.001) were observed to be independent predictors of GDM. **Conclusion:** It was concluded that AFABP is not statistically different in GDM and NGT or among the three trimesters of the two groups.

Keywords: Adipocyte fatty acid binding proteins ,GDM, NGT, AFABP, insulin indices

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