

IMPACT OF ADIPOKINES AND INFLAMMATORY CYTOKINES ON ABNORMAL GLUCOSE TOLERANCE IN YOUNG

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Background: Adipokines and inflammatory cytokines may have an important impact on rising trend of diabetes in young across the globe. To see the association of serum adiponectin, leptin, resistin, tumor necrosis factor-alpha (TNF- α) and C-reactive protein (CRP) with obesity and abnormal glucose tolerance (AGT, includes both prediabetes and diabetes) in young Bangladeshi. **Methods:** This case-control study included 40 young participants with AGT [age 26 years (IQR 24-29); 60.0% female] and 40 with normal glucose tolerance [NGT; age 25 years (IQR 22-28); 44.0% female] encompassed following the oral glucose tolerance test (OGTT) and HbA1c. Insulin resistance (IR) was calculated by homeostasis model assessment (HOMA). The measurement of serum adiponectin, leptin, resistin and TNF- α was done by ELISA whereas CRP by Chemiluminescent tests. **Results:** Level of TNF- α , leptin, and adiponectin as well as frequency of raised resistin and CRP were statistically similar between AGT and NGT (p=NS for all). TNF- α , leptin and CRP were positively correlated while adiponectin and resistin were negatively correlated with measures of obesity. No adipokines or inflammatory cytokines had any significant correlation to glycemic measures, except negative correlation in AGT with leptin and CRP. Fasting insulin and IR had a positive correlation with leptin and CRP, negative correlation with adiponectin and resistin while no significant correlations with TNF- α . None of the cytokines or inflammatory markers were independent predictors of AGT in youth. **Conclusion:** The serum levels of cytokines do not differ significantly between AGT and NGT subgroups of young subjects and none of the cytokines was observed to be independent predictor over AGT in young.

Keywords: Adipokine, Inflammatory cytokine, abnormal glucose tolerance, diabetes in young

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