

Maternal adiponectin concentration and food intake in gestational diabetic women: A case control study

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Background: Gestational diabetes mellitus (GDM) is an impaired fasting glucose condition during pregnancy. Adiponectin is a polypeptide hormone that is extensively released by adipocytes which regulate energy homeostasis and carbohydrate and lipid metabolism. In addition, adiponectin has antidiabetic and anti-inflammatory properties. The aim of our research was to study about the relationship of adiponectin levels to GDM and glucose intolerance.

Methods: We selected 25 GDM women and 35 healthy pregnant subjects (18–46 years) who were screened between 24 and 28 weeks of gestation based on the result of oral glucose tolerance test (OGTT). We designed case-control study and measured the concentration of serum adiponectin and compared between the groups. Serum adiponectin concentration was detected

using enzyme linked immunosorbent assay (ELISA). Dietary information was collected by Food Frequency Questionnaire.

Results: Serum adiponectin concentration was significantly lower in the subjects with GDM (5.10 ± 2.15 ng/mL vs. 7.86 ± 3.52 ng/mL, $p = 0.001$) than healthy pregnant subjects. The mean concentration of fasting blood glucose was considerably lower in control subjects (86.9 ± 9.0 mg/dL vs. 175.9 ± 20.1 mg/dL, $p < 0.001$) in comparison to GDM subjects. Dietary intake of foods from milk, cereals and vegetables groups at GDM mothers were significantly lower than healthy group ($p < 0.05$).

Conclusion: Our findings showed that serum concentration of adiponectin was significantly lower in gestational diabetic women and this may help to predict the risk of GDM.

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