

# Plasma Omentin-1 Level does not Change in the First Trimester in Women with Gestational Diabetes Mellitus

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## OBJECTIVES

Gestational diabetes mellitus (GDM) is strongly associated with maternal obesity. Omentin-1 is secreted from the adipose tissue and enhances insulin action. Circulating levels are inversely correlated with body weight, decreased in type 2 diabetes. Pre-existing maternal obesity has been shown to be associated with lower omentin-1 expression in placenta, adipose tissue and maternal plasma. In our previous study, we had shown that plasma omentin-1 level is decreased in women with GDM and increased after delivery. The aim of this study was to assess the maternal plasma omentin-1 level in the first trimester and its predictive value on development of GDM.

## METHODS

Pregnant women in their first trimester (n=220) were included into the study. Those that developed GDM (n=66) was compared with non-diabetic pregnant women (n=154). WHO criteria was used for the diagnosis of GDM and screening was done at gestational weeks 24-28. Plasma omentin level was measured with ELISA. Fasting blood glucose, insulin, was also measured and HOMA-IR was calculated.

## RESULTS

Patients with GDM was overweight compared to controls at the beginning of pregnancy (BMI:  $28,2 \pm 4,4$  vs.  $25,2 \pm 3,0$ ). HOMA-IR was higher in GDM group ( $2,07 \pm 1,4$  vs.  $1,40 \pm 0,6$ ). Omentin level was not different between groups ( $2,22 \pm 0,8$  vs.  $2,05 \pm 0,9$  ng/L). After delivery plasma omentin level increased with a mean level of  $166,6 \pm 74,1$  ng/L. there was no correlation between plasma omentin-1 level and glucose levels during oral glucose tolerance test. Omentin-1 level did not also correlate with body mass index, HOMA-IR and age.

## CONCLUSIONS

Plasma omentin-1 level during early periods of pregnancy is did not differ between healthy and GDM-developed women. Since decreased levels were observed in GDM patients in previous studies, our findings could indicate that omentin-1 levels decrease as the pregnancy ages or change is only observed when GDM develops.

## References

