

## Markers of endothelial dysfunction and coagulation in gestational diabetes mellitus

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**Objective:** to explore the features of the coagulation system and endothelial dysfunction in pregnant women with gestational diabetes mellitus (GDM).

**Methods:** 157 pregnant women were divided into 4 groups: GDMA1 (n=70, group I-diet); GDMA2 (n=40, group II-insulin); preeclampsia (n=30, group III); normal (n=17, group IV). Coagulation studies and content of D-dimer, homocysteine and Von Willebrand factor (vWF) were performed by common methods of ELISA.

**Results:** Fibrinogen was higher in GDMA1 - 4,64 g/l, GDMA2 - 5,0 g/l and preeclampsia - 4,54 g/l compared to the control group - 4,04 g/l ( $p<0,01$ ). AT III in GDM's groups (88,93 - 93,08%) and preeclampsia (87,92%) was reduced compared to the control group - 105,44% ( $p<0,05$ ). The highest D-dimers were observed in GDMA1 - 752,8 ng/ml, GDMA2 - 732,04 ng/ml and preeclampsia - 636 ng/ml. D-dimers in the control group were - 509,29 ng/ml ( $p<0,05$ ). Levels of ET-1 were the highest in GDMA2-3,82 fmol/l, and the lowest - in group IV - 2,54 fmol/l. In preeclampsia, ET-1 was lower, but higher than in the control group - 2,83 fmol/l ( $p<0,05$ ). sICAM-1 were the highest in GDM: A1-332,35 ng/ml, A2-349,86 ng/ml, and the lowest in preeclampsia - 277,56 ng/ml. In group IV sICAM-1 was - 288,8 ng/ml. In content of sICAM-1 findings, there were no significant group differences observed ( $p>0,05$ ). The highest values of homocysteine were detected in GDMA2 - 7,23 mmol/l and were the lowest in control group-5,78 mmol/l. Patients in groups I and IV had comparable indicators of homocysteine - 6,87 - 6,74 mmol/l. The highest level of vWF was found in GDMA2 - 2.92 U/ml and the lowest were in the control group - 1,7 U/ml. vWF values in GDMA1 and preeclampsia were similar in comparison - 2,46 - 2,44 U/ml ( $p<0,05$ ).

**Conclusions:** the survey sets out the straight link between the coagulopathy and endothelial dysfunction in GDM, which could increase the rate of incidence of preeclampsia and placental insufficiency.

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