

Anthropometric indicators and vitamin D level in newborns from women with gestational diabetesmellitus

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Introduction. Maternal hyperglycemia during pregnancy is one of the factors of epigenetic modifications.

Objective. A comparative analysis of anthropometric data and 25(OH)D level in newborns depending on the glycemic target level of the mother with GDM.

Methods. 66 newborns were examined: first group — 16 (24.2%) babies from mothers with GDM with glycemia in the III trimester of less than 5.1 mmol/L; second group — 20 (30.3%) from mothers with GDM with glycemia more than 5.1 mmol/L. Control group — 30 (45.5%) babies.

Results. First and control groups: maternal glucose — 4.2 [4.0–4.3] mmol/L and 4.1 [3.6–4.6] mmol/L ($p > 0.05$) respectively; body weight of newborns was 3,650 [2,350–4,280] grams and 3,345 [3,050–3,600] grams ($p > 0.05$), length 53.0 [47.0–54.0] cm and 51.5 [50.0–53.0] cm ($p > 0.05$), head circumference — 36.0 [33.0–37.0] cm and 35.5 [35.0–36.0] cm ($p > 0.05$)

and 25(OH)D level is 14.6 [4.6–17.3] ng/ml and 14.5 [7.9–21.7] ng/ml ($p > 0.05$) respectively.

Second group versus the control group: maternal glucose is 6.9 [5.7–7.8] mmol/L ($p < 0.001$); weight of newborns — 3,830 [3,150–4,220] grams ($p < 0.05$); length — 53.5 [50.5–55.0] cm ($p > 0.05$), head circumference — 36.0 [35.0–38.0] cm ($p > 0.05$); 25(OH)D — 6.9 [5.7–7.8] ng/ml ($p < 0.05$).

Severe deficiency of 25(OH)D in newborns from the first and second groups was detected in 5 (33.3%) and 10 (50.0%), deficiency — in 6 (40.0%) and 7 (35.0%), insufficiency — in 4 (26.7%) and 3 (15.0%) babies respectively.

Conclusion. Newborns from mothers with GDM with glucose more than 5.1 mmol/L had significantly higher body weight and a low level of 25(OH)D than in the control group. Babies from mothers with GDM have poorer vitamin D level than healthy newborn babies.