

METABOLIC CONTROL IN PREGNANT WOMEN WITH INSULIN DEPENDENT DIABETES MELLITUS AND THE NEONATAL BODY WEIGHT

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In order to outline factors affecting the neonatal weight we analyzed the course and outcome of 227 pregnancies in women with insulin dependent diabetes mellitus (IDDM) who gave birth to liveborn babies in 1989-1997 years. Mean age of patients was 24.9 ± 0.3 years, mean duration of diabetes 10.5 ± 0.4 years. In 88 women (38.8%) microvascular diabetes complications were present. The transition from conventional to intensive insulin therapy took place on the average at 13.6 ± 1.2 weeks of pregnancy. The mean blood glucose values were calculated weekly and varied from maximal - 7.4 ± 0.2 mmol/l during the first trimester to minimal - 5.8 ± 0.3 mmol/l - during the third trimester of pregnancy. 11.2% of patients had pregnancy-induced hypertension or proteinuria and 26.4% - preeclampsia (defined as pregnancy-induced hypertension and proteinuria). The mean time of delivery was 36.1 ± 0.1 weeks. Three groups were distinguished according to the neonatal body weight (correspondence to standard meanings of weight and gender for the given gestational age was taken into account): I - infants with low for gestational age birthweight (<25 centiles) - 13 (5.7%); II - infants with appropriate for gestational age birthweight (25-75 centiles) - 52 (22.9%); III - infants with large for gestational age birthweight (>75 centiles) - 162 (71.4%). Mean levels of glycemia during pregnancy were similar in three groups. A negative correlation was observed between the birthweight and the presence of microvascular diabetes complications ($r = -0.34$, $p < 0.001$) and between birthweight and frequency and degree of preeclampsia ($r = -0.38$, $p < 0.001$). We also found a positive correlation between presence of diabetes complications and frequency and degree of preeclampsia ($r = 0.41$, $p < 0.001$). Mean levels of glycemia during first trimester of pregnancy correlated with frequency and degree of preeclampsia ($r = 0.55$, $p < 0.05$). Thus these data suggest that the main factors lowering the neonatal weight in IDDM women are: the presence of microvascular diabetes complications and preeclampsia. The incidence of preeclampsia is connected with the level of metabolic control during the first trimester of pregnancy.

THYROID GLAND FUNCTION AT THE PREGNANT WOMAN WITH DIABETES MELLITUS

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High prevalence (15%) of polyglandular disturbances in patients with diabetes mellitus (DM) were by the basis for analysis of a thyroid gland (TG) function at the diabetic pregnant woman.

Objective: 334 women with insulin-dependent DM (IDDM), 35 women with non-insulin-dependent DM and 56 women with gestational diabetes (GD) were enrolled in the study. The control group consisted of 250 pregnant women without an endocrine pathology and high-gravity complications of pregnancy.

Methods: Serum free and total thyroxine (T4) and triiodothyronine (T3) and thyrotropin-releasing hormone (TSH) levels were measured by automated immunometric assay in terms with 12 for 40 weeks of pregnancy.

Results: We observed the different diseases of TG in 57 pregnant women (13,1%) and most frequently it was the diffuse nontoxic goiter (63,3%). In 16 cases (28%) we have found the chronic autoimmune thyroiditis, and 5 women (8,7 %) had a hypothyroidism and received thyroid hormone replacing therapy. The research of TG hormonal function has demonstrated that the serum TSH levels for the pregnant women with different types of DM tends to increase from second trimester, and this rise was most expressed for the women with IDDM. Patients with DM had the significant decrease of total levels of T3 and T4 during of third trimester of pregnancy compared with control group ($p < 0,05$). The decrease of T4 total levels was more expressed for the women with IDDM compared with other types of DM ($p < 0,05$).

Conclusions: Thus, our results confirm the high incidence of TG pathology among the pregnant woman with DM. The functional hormonal changes during the pregnancy (relative hypothyroxinemia) were most expressed for the women with IDDM, that can be partly connected to metabolic carbohydrate disturbance in this group of patients.