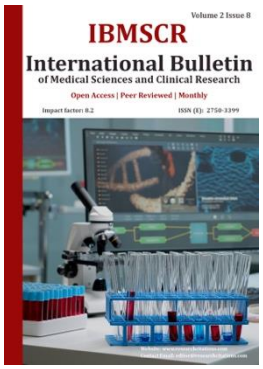

MODERN ASPECTS OF TREATMENT OF GESTATIONAL DIABETES MELLITUS

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Annotation. Given the high incidence of perinatal complications in women with gestational diabetes mellitus (GDM), an effective algorithm for diagnosing and treating this disease is necessary. We analyzed the characteristics of the course and outcomes of pregnancy in 500 women with GDM, in whom new clinical recommendations for the diagnosis and treatment of gestational diabetes mellitus were used. The comparison group consisted of 100 women with GDM (criteria by V. G. Baranov, 1977). Analysis of the results is necessary to optimize the management tactics of this group of patients.

Key words. gestational diabetes mellitus; glucose; glucose tolerance test; gestosis; C-section; macrosomia; hypoglycemia of the newborn; insulin therapy.

Relevance. Gestational diabetes mellitus (GDM) is defined as glucose intolerance of various degrees that is first detected during pregnancy. GDM is detected through the screening of pregnant women for clinical risk factors and, among at-risk women, testing for abnormal glucose tolerance that is usually, but not invariably, mild and asymptomatic. GDM appears to result from the same broad spectrum of physiological and genetic abnormalities that characterize diabetes outside of pregnancy. Indeed, women with GDM are at high risk for having or developing diabetes when they are not pregnant. Thus, GDM provides a unique opportunity to study the early pathogenesis of diabetes and to develop interventions to prevent the disease.

Aim of the study. Determine the appropriate treatment for gestational diabetes mellitus (GDM).

Material and methods of the study. An analysis was carried out of 50 birth histories of women with GDM for the period 2022-2023, the diagnosis of which was established in accordance with the new clinical recommendations (group I). According to modern criteria, the diagnosis of GDM is carried out in 2 phases. The first phase is carried out when a pregnant woman contacts an antenatal clinic and is aimed at earlier detection of pregestational diabetes mellitus and GDM that were not diagnosed before pregnancy. One of the following indicators must be determined: fasting venous plasma glucose, random determination of blood glucose, level of glycated hemoglobin. Thus, with a FPG level > 7.0 mmol/l, or HbA1c > 6.5%, or a random determination of glycemia > 11.1 mmol/l, a diagnosis of overt GDM is established (diabetes reclassification is carried out after childbirth). If the FPG level is > 5.1 mmol/L and less than 7.0 mmol/L, GDM is diagnosed. The second phase is carried out at a gestation period of 24-28 weeks - all pregnant women who have not had a violation of carbohydrate metabolism before this period undergo a glucose tolerance test (GTT). GDM is

diagnosed when one of the following values is higher than normal (fasting less than 5.1 mmol/L, 1 hour after exercise less than 10.0 mmol/L, and 2 hours less than 8.5 mmol/L).

The age of women in group I was 28.7 ± 4.9 years, in group II it was higher- 32.2 ± 2.9 years. Body mass index (BMI) before pregnancy in group I was 30.5 kg/m2, in group II it was 31.5 kg/m2. With a confirmed diagnosis of GDM, all pregnant women received recommendations on a diet excluding easily digestible carbohydrates. Food calories were calculated according to BMI. If the BMI was normal (18-24.9 kg/m2) the calorie content was 30 kcal/kg body weight, with a BMI of 25.0-29.9 kg/m2 - 25 kcal/kg body weight and in the case of a BMI of 30 kg/m2 and above - 12-18 kcal/kg body weight, but not less than 1800 kcal/day. All women were recommended to eat frequent meals (5-6 times a day).

Results and its discussion. According to the overwhelming majority of researchers [4, 5, 6, 7], excess body weight is a predictor of the development of GDM. In our study, excess body weight was detected in more than 50% of women (56.1% of women in group I, 72% of women in group II).

In group I, the diagnosis of GDM was established much earlier, at 26.8 weeks (11-32) of pregnancy, than in group II - at 31.2 weeks of pregnancy (25-356. Group I was divided into 3 subgroups in connection with the diagnostic criteria for GDM: diagnosis by fasting glycemia >5.0 mmol/l in 57% of cases - subgroup a; excess glycemia at one or several points during a glucose tolerance test (GTT) in 34% of cases - subgroup b; fasting glucose >7.0 mmol/l, which meets the criteria for manifest diabetes mellitus, in 9% of cases - subgroup B. In subgroup a, the period of detection of GDM was the earliest and amounted to 17.6 weeks of pregnancy (11-29), in subgroup b - 26.8 weeks of pregnancy (24-33 weeks), in subgroup c - 27.5 weeks of pregnancy (13 -32 weeks). In group II, the diagnostic criteria in more than 90% were changes in PTH result values. In group I (Table 1), pathological weight gain of more than 12 kg was noted in 4.5% of cases, in group II in 28.5%. The frequency of polyhydramnios in GDM, according to the literature [8, 12], ranges from 20 to 60%. According to our data, polyhydramnios complicated the course of pregnancy in 23.5% of women in group I. This figure was significantly lower than in group II (46%) ($p = 0.032$). The frequency of gestosis was lower in group I (15%) compared to the rate in group II (20%). According to the literature [8, 12], the incidence of preterm birth in GDM ranges from 5 to 33% and depends on the degree of compensation for DM during pregnancy [1, 8]. In our study, the incidence of preterm birth in group I was 5.6%, in group II - 13% ($p = 0.07$). The delivery time in group I was close to physiological and was 37.5 ± 0.9 weeks, in group II it was 37.6 ± 1.1 weeks, respectively. The frequency of surgical delivery by cesarean section did not differ significantly in the study groups and amounted to 52% in group I and 58% in group II. Indications for surgical delivery in group I were obstetric indications not related to GDM in 42.5% of cases (uterine scar, primigravida's age over 35 years, history of long-term infertility using ART programs, narrow pelvis). Indications for the totality, where complications of GDM were the leading indications for surgical delivery, amounted to 24.0%. These indications included large fetus, preeclampsia, placental insufficiency. Indications for the totality, where complications of GDM were not leading, amounted to 32.1%.

The incidence of macrosomia was significantly lower in group I and amounted to 15% compared to the indicators in group II - 29% ($p = 0.034$). The frequency of neonatal hypoglycemia in the newborn (glycemia less than 2.2 mmol/l in full-term pregnancy and less

than 1.6 mmol/l in preterm pregnancy) was lower in group I - 19% compared to the rate in group II - 20%.

Conclusion. The use of new clinical guidelines for the diagnosis and treatment of gestational diabetes mellitus contributes to earlier detection and initiation of treatment for GDM. The introduction of more stringent criteria for target glycemia in GDM leads to a decrease in the incidence of pregnancy complications and outcomes.

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