Milena Aćimović [1], Snežana Marić- Krejović[2]

GESTATIONAL DIABETES MELLITUS AND PREGNANCY

Demonstration of case

INTRODUCTION: Gestational diabetes mellitus (GDM) complicates 3–5% of all pregnancies and presents one of the most common medical problems during gravidity. Gestational diabetes is defined as a glucose homeostatic disorder of any intensity, which had begun or had been diagnosed for the first time during pregnancy. Most literature information points to increased perinatal mortality and morbidity in cases of undiagnosed and untreated gestational diabetes. Basic morbidity (immediate complications) is a consequence of fetal macrosomia, antenatal and intrapartal asphyxia (hyperglycemia and fetal hyperinsulenemia increase the need for oxygen and may cause asphyxia; immature tercial chorion villus, which characterizes diabetes, causes fetal asphyxiation; high hyperglycemia causes the vasoconstriction of the placenta blood vessels), operative delivery manner and delivery trauma. The early neonatal morbidity consists of hypoglycemia (30–50%), hypocalciemia (50%), hypomagnesemia (10%), polycitemia (up to 30%) effects of fetal asphyxiation and hyperbilirubinemia (20%) occurring due to policitemia and the inability of bilirubin conversion. The neonatuses possess an elevated body fat percentage, 12–14%, in relation to 10–12% with neonatuses from physiological pregnancies. Besides that, there is an accentuated organomegaly, immature organ systems and a hypertrophy of the heart septum, more frequent congenital anomaly in cases of more pronounced metabolism disorders in the organogenesis period. With a strict control of the metabolism, the frequency of the respiratory distress syndrome (RDS) has been decreased with newborns from 31% to 3%. Inadequate glycemia and metabolism checkups during pregnancy result in neurological, intellectual and psychomotor development disorders during childhood, teenage life and adulthood.

[1] General Hospital, Užice. [2] Health Center, Arilje

The criteria for the diagnosis of Gestational diabetes are:

1. All gravid women without risk in disorders of metabolism of carbon dioxide should be administered with 50g.of glucose between the 24th and 28th week of gravidity. The glycemia level after 1h which is over 8.8 mmol is considered pathological and requires an oral glucose tolerance test with 100g (OGTT).

2. The oral glucose tolerance test (OGTT) should be administered to the group of gravid women at risk during the first trimester. If the test is negative, it should be repeated between the 28th and 30th week of gravidity.

3. OGTT indications:

– history of family diabetes;
– thyroid gland function disorder;
– obese gravid women;
– macrosomia in previous pregnancies;
– habitual miscarriages, stillbirths in previous pregnancies;
– glycosuria;
– macrosomia in the present gravidity;
– polyhydramnion;
– hypertrophy of the placenta;
– multifetal pregnancy;
– gravid women over 35 years of age.

4. The 100g oral glucose tolerance test (OGTT) is pathological provided one value is above:

On an empty stomach, 5.3 mm
1h 10.0
2h 8.6
3h 7.8

STUDY GOAL: Demonstration of a successfully maintained gravidity with a patient diagnosed with gestational diabetes.

MATERIAL AND METHODS: Medical documentation from the Department of Gynecology and Obstetrics of the General Hospital in Užice was used.

RESULTS WITH DISCUSSION: The patient D. M., 30 years of age, was admitted at the Department of Gravidity Pathology at the General Hospital in Užice due to imminent miscarriage in the second month of gravidity. In her anamnesis, she stated that in 2007 she had had a miscarriage in her third month of pregnancy, which occurred following a primary one year infertility. The ultrasound examination verified vital pregnancy corresponding to a gestation of 7 weeks. A hormone and vitamin therapy was prescribed. The controlled biochemical results pointed to anemia (Err 3.00; Hg 103; Fe 8.3), glycemia on an empty stomach was 5,9 mmol. OGTT done

with the levels of glycemia after 2h at 9,1, and after 3h 8mmol. An endocrinologist was consulted following a daily glycemic profile the next day: glycemia on an empty stomach was 5,7 mmol, 1h postprandially: 7,9 mmol, 2h postprandially: 7,l mmol. Gestational diabetes mellitus was diagnosed and the patient was advised to have a diet regime with limited consumption of carbo hydrates. The cervical smear was sterile and Escherichia coli was isolated in the urine culture, with administered Longaceh amp a 2gr/24h and. iv. 5 days with Utrogestan tbl 3x2, iron and vitamin therapy. She reacted favorably to the administered rigorous hygiene – diet regime, with cessation of bleeding, and the checkup revealed that the pregnancy was advancing with glycemia on an empty stomach at 4,9; 1h postprandially: 7 mmol; 2h popstprandially: 6,1 mmol, and the control findings of the urine culture showed to be sterile. Following a two-week hospitalization, the patient was released with a hormone therapy, iron supplements, a hygienic- diet regime and prescribed rest. Upon later checkup after one month, the gynecological results were in order, with no bleeding and Utrogestan was discontinued, along with normal findings. The control biochemical results point to a minor anemia (Err 4,00; Hgr 110; Fe 11.2), glycemia on an empty stomach: 4,8 mmol; 1h postprandially: 6,6 mmol; 2h postprandijally: 5,9 mmol, and other biochemical findings were in physiological limits. Continued therapy with iron, vitamin and a diet regime with limited consumption of carbo hydrates and administered Canesten vag. During the 16th week of gravidity a Triple screening test was done which was in physiological limits and the pregnancy was controlled according to high risk protocol. In the 22nd week of gravidity, a 4D examination revealed normal fetal morphology and growth. The patient was hospitalized again in the 28th week of gravidity with the daily glycemic profile, glycemia on an empty stomach and other biochemical parameters within physiological limits. The consultant endocrinology examination was repeated and Enterococcus was isolated in the cervical smear and antibiotic therapy was administered with Amoksiklav tbl a 625mg, 3x1. In the Mak-mirror complex vag,, the gynecological findings were normal with no administration of tocolic therapy. The pregnancy was advancing according to the ultrasound examination. After 7 days, the patient was released home with a diet regime and vitamin therapy. The ultrasonographic fetus supervision is performed on a monthly basis, and cardiotocography (CTG) once a week starting with the 34th week of gestation with a daily glycemic profile once a month. The patient gave birth vaginally in the 39th week of gestation to a live male child, 3650g, Ap. Score 9, with the postpartum course in order. Upon endocrinology checkup examination, the daily glycemic profile proved to be within physiological limits.

RESUME: The realization that the quality of life of the future generations is determined by medical care during the fetal life, imposes obligations and expectations to neonatalists. The prevention of disorders, primarily with the modification of the earliest environmental development, timely diagnosis and gestational diabetes therapy, with no doubt decreases most immediate as well as remote adulthood complications.

Lumepamype

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