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Studying the Features of the Course of Pregnancy in Women of Fertile Age with Obesity

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Relevance. In recent years, the problem of the impact of maternal overweight on the outcomes of pregnancy and childbirth has become relevant, and this problem is of serious concern not only in the field of family medicine, but also in obstetrics-gynecology and neonatology. The incidence of obesity in pregnant women in different countries of the world is not unambiguous. So, in the Russian Federation it ranges from 25% to 31.2%, in the UK and the USA from 19% to 25%, thus, obesity and overweight occur in every third pregnant woman, and more often in multiparous women (62.8%). It should be noted that obesity itself can cause infertility in women of reproductive age. The process of obesity can develop against the background of many somatic diseases or hormonal disorders with a subsequent impact on the reproductive system of women. The impact of maternal weight on pregnancy and childbirth outcomes is of great concern to experts. At the same time, the high percentage of operative delivery (37.8%) among obese women draws attention. Also, adverse outcomes include an increased risk of gestational diabetes caused by gestational hypertension and as a consequence of preeclampsia, birth defects, macrosomia (>4500g), which can lead to the possible development of birth trauma, increase the risk of allowing delivery by caesarean section, or lengthening the time of delivery, as well as an increase in the risk of developing severe asphyxia in newborns. Serious consequences for the fetus include an increased risk of infant mortality due to an increased risk of mortality at full term and an increased prevalence of preterm birth. Therefore, the study of the course and outcomes of pregnancy in overweight and obese women remains relevant in the field of perinatal medicine.

The purpose of the study. The study of the features of the course of pregnancy in women with overweight and obesity.

Materials and research methods. The study was conducted for 2 years (2018-2019) in polyclinic conditions among 54 pregnant women aged 20 to 36 who were overweight or obese (1 and 2 degrees) before pregnancy. Pregnant women with initial obesity of the 3rd degree before pregnancy were not included in the group of examined women, due to the presence of many somatic comorbidities that affect the study indicators.

The studies included: analysis of the history of the outpatient card of pregnant women (f. 111 / y), screening of the questionnaire through the questionnaire developed by us - questionnaires to assess the medical aspects of the quality of life of pregnant women.

For women, the body mass index (BMI) was determined by the formula:

BMI = weight (kg) / height $(m)^2$. According to the WHO recommendation (2009), normal weight defined

as BMI 18.5-24.9, overweight - BMI ≥ 25 kg/m2 (or 25-29.9), obesity - BMI ≥ 30 kg/m2. These ranges are independent of age, race, and ethnicity. All pregnant women, on the basis of established standards for examinations in outpatient conditions for pregnant women, underwent standard analyzes of clinical and laboratory examinations. BMI was calculated at each outpatient visit. Prior to the study, women's consent was obtained for the collection of anamnestic data and screening questionnaires. Participants were also told that they could withdraw from the study process at any time. Based on the results of the study, statistical data processing was carried out using a computer program for medical statistics.

Results and discussion. Based on the goal of the study set before us, a questionnaire for screening questionnaires was developed, including the following questions: age, occupation, level of education, how many years of marriage, the number of pregnancies, what is the current pregnancy, the last date of the menstrual cycle, the outcome of previous pregnancies, the number and age of children, their birth weight, the course of delivery of the previous pregnancy (gestational age at birth, route of delivery), complications during pregnancy or childbirth, the presence of pathology in previous children in the early postpartum period, were / and the number of miscarriages, abortions or stillbirth. Anamnestic data were taken from the pregnancy history: family history, the presence of somatic diseases, surgical interventions for somatic diseases, the gestational age by ultrasound, the results of standard clinical and laboratory studies. The criteria for selecting pregnant women for the study included: women who are overweight or obese before or during pregnancy, without severe somatic diseases, without neuropsychiatric abnormalities, aged 20 to 36 years. Based on the purpose of our study, all pregnant women were divided into 3 main groups: Group I - pregnant women who had excess body weight before pregnancy, n = 28 (51.85%), Group II - pregnant women who had obesity before pregnancy 1- Art., n=17 (31.48%), group III - pregnant women, before pregnancy with 2-stage obesity, n=9 (16.67%). All the examined women were under the supervision of doctors of the polyclinic, they underwent appropriate clinical and laboratory studies, and received appropriate medical and preventive measures. When interpreting the results obtained, it was found that women of all ages suffer from overweight, and obesity of the 1st and 2nd degree is mainly women over 28 years old - 16 (61.54% of 26 observed). The results of the study showed that women had gaps in knowledge about the adverse effects of maternal overweight and obesity during pregnancy, and various misconceptions about diet and weight management during pregnancy were common. Conflicting data was obtained during the collection of data on the perceived importance, complexity and levels of motivation for weight management during pregnancy. During the screening questionnaire, it was determined that 43 (82.7% of n=54) pregnant women are aware of the negative impact of excess weight on the development of the fetus and the course of childbirth. At the same time, 39 (72.2% of n=54) pregnant women try to control their weight, although knowledge of the importance of weight control during pregnancy may be the first step towards changing attitudes towards women who are overweight or obese. Knowledge alone may not be enough, and they should be supplemented with additional specific recommendations that will allow these women to successfully and safely manage weight in their pregnancy, in connection with which a conversation was held with all surveyed pregnant women on this issue, with the selection of necessary measures. From the anamnestic data, it was found that 11.1% (n=6 out of 54) of women have a history of stillbirth of the fetus, while the highest rate is observed among pregnant women from group III of the surveyed - 22.2% (n=2 out of 9) , in subjects from groups I and I - these figures were 7.14% (n=2 out of 28) and 11.76% (n=2 out of 17), respectively. When considering the incidence of early miscarriages in overweight and obese women, similar rates were observed. In particular, in group I, this indicator was 10.71% (n=3 out of 28), in group II - 23.53% (n=4 out of 17), and in group III - 33.33% of cases (n= 3 out of 9). The data obtained show a high incidence of early miscarriages in women with grade 2 obesity, with an increase in the incidence of this pathology in relation to overweight women by almost 3 times. During pregnancy, preeclampsia was diagnosed in pregnant women in 25.93% (n=14 of 54) cases, of which 44.44% of cases (n=4 of 9) in pregnant women from group III were diagnosed with this pathological condition. While in pregnant women from group II, preeclampsia was diagnosed in 29.41% (n=5 out of 17) and in group I - in 17.86% (n=5 out of 28) cases. At the same time, gestational diabetes was diagnosed in 18.52% (n=10 out of 54) of the examined pregnant women. At the same time, in group III, this diagnosis was noted in 33.33% of cases (n=3 out of 9), in groups I and II, these figures were 10.71% (n=3 out of 28) and 23.53% (n=4 from 17) respectively. As some authors note, complications in pregnant women with gestational diabetes mellitus are up to 79.2%, in which early toxicosis, anemia, polyhydramnios, late preeclampsia, chronic pyelonephritis and the threat of abortion are most often diagnosed. The causes of

most micronutrient deficiencies during pregnancy and the causes of gestational obesity are very similar, being a poor diet with reduced intake and/or absorption of many micronutrients combined with an increased requirement for them and sequestration of fat soluble vitamins. Consequently, the need for trace elements, and, consequently, the functioning of placental metabolism is partially disturbed. If we consider the incidence of chronic placental insufficiency (CRF) in pregnant women with overweight and obesity, it can be noted that in the subjects from group III, this condition occurs in 22.22% (n = 2 out of 9) of cases, while in those observed from Group II, this indicator was 17.65% (n=3 out of 17) and in the observed group I - 14.29% (n=4 out of 28). In total, among the observed in 16.67% (n = 9 out of 54) cases, we note the presence of chronic placental insufficiency, which characterizes the aggravation of the course of pregnancy with a negative effect on the development of the fetus, which we observe during childbirth and the early neonatal period in newborns. In particular, the birth of newborns with asphyxia of various degrees was noted only in 27.78% (n=15 out of 54) cases. Of these, the highest rate was noted in group III - 44.44% of cases (n=4 out of 9), in groups I and II, these figures were 17.86% (n=5 out of 28) and 35.29% (n= 6 out of 17) respectively. At the same time, the birth of newborns with severe asphyxia was noted in 7.41% (n=4 out of 54) cases. When analyzing the outcome of pregnancy, it was determined that in 23 (42.59% of n=54) cases, the birth of children with diabetic fetopathy was noted. At the same time, diabetic fetopathy is understood as specific abnormalities in the development of the fetus that occur during pregnancy in mothers with poorly compensated gestational diabetes mellitus, which indicates a high rate of development of fetal pathology in this category of women.

Conclusion. Overweight and obesity in women during pregnancy cause profound pathological complications characterized by adverse consequences for reproductive health, including gestational diabetes (18.52%), a high rate of early neonatal pathology (27.78%) and infant mortality (11.1 %), and this category women should be taught how to control their weight during pregnancy.

Literature

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