FEATURES OF FAT AND CARBOHYDRATE METABOLISM IN PREGNANT WOMEN WITH PATHOLOGICAL GESTATIONAL WEIGHT GAIN

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Abstract: the article discusses the features of body weight increase in the dynamics of the gestational process in women with different initial anthropometric indicators.

Keywords: gestational weight gain, carbohydrate metabolism, fat metabolism.

In recent decades, the topic of metabolic disorders has become one of the leading in the list of the most pressing problems of modern medicine. It is known that pathological changes in metabolism often lead to menstrual dysfunction, infertility, and the development of hyperplastic processes in the reproductive sphere. Pregnancy in these women is almost always associated with an increased risk of adverse obstetric and perinatal outcomes. Therefore, it is natural that researchers pay such serious attention to the section that can be designated as "metabolic disorders and pregnancy." Traditionally, this topic is given considerable attention, both in Uzbekistan and abroad. Note that in recent years there has been an increase in the interest of scientists in the problem of gravid metabolic disorders. An analysis of modern literature shows that domestic research is mainly focused on studying the issues of gestational diabetes, while various aspects of insufficient and excessive weight gain during pregnancy are being actively studied abroad. International statistics show dismal performance. No more than half of pregnant women adequately increase weight, the rest have weight gains significantly above or below the recommended thresholds. Moreover, excessive accumulation of mass occurs 2-3 times more often than insufficient, and is recorded in 40-59% of women. However, practical experience shows that its frequency is not lower than in European countries. Unfortunately, we have to state that the information vacuum in our country indicates a significant underestimation of the value of gestational increase in body weight (GUMT), which, despite its "simplicity", is an important marker of the adequacy of metabolism and the physiological course of pregnancy. Works published over the past 3-5 years demonstrate that pathological weight gain during pregnancy can be associated not only with the development of immediate gestational complications, but also with the risk of obesity, diabetes, cardiovascular and oncological diseases in both women and women. her child in the future. However, the opinions of researchers dealing with these issues are quite contradictory, and it is obvious that the discussion about the significance of GUMT is just beginning. So some authors find an unconditional connection between inadequate weight gain and the formation of negative outcomes for the mother and fetus, while others almost completely reject such relationships. Even such a seemingly simple question about the relationship between lactation and HUMT remains open. So far, it is not clear which trimester of pregnancy is most important in terms of the consequences of pathological weight gain, due to which there is an increase in weight at different periods of gestation , how carbohydrate and fat metabolism changes at different levels of HUMT.

Speaking about the relevance of the topic under consideration, we must emphasize that the main links in the pathogenesis of pathological weight gain are still not clear. There is an ongoing discussion about whether pregravid endocrine-metabolic disorders are the main cause of inadequate HUMT or whether a woman's eating behavior, regardless of her initial weight, determines the level of weight gain. It must be admitted that the

design of the ongoing studies varies significantly, which does not allow us to make an unambiguous conclusion about the role of pathological weight gain and, especially, its fat component in the development of maternal and fetal metabolism disorders in "physiological insulin resistance ", which , as you know, is characteristic of even healthy people. pregnant. The contribution of physical activity, smoking, social conditions, stress and other factors in the formation of pathological weight deviations during pregnancy is not clear. The solution of these issues is of great practical importance, since it is associated with the possibility of influencing HUMT by modifying the behavior of a pregnant woman. Unfortunately, many doctors are not oriented in the currently existing classifications of weight gain, and they treat the problem mainly as cosmetic or consider it only in terms of clinical manifestations of preeclampsia .

Thus, the problem of pathological HUMT is relevant not only in terms of immediate pregnancy outcomes, but also for the health of the population as a whole. The lack of unified views on pathogenesis, gestational and post- gravid complications, and the possibility of prevention dictate the need for further scientific research in this direction. We assume that having clarified the causes of the formation of pathological HUMT and its actual risks for the mother and fetus, it will be possible to formulate the main provisions for the prevention of inadequate weight gain and related complications.

The analysis of gestational weight gain showed that the fundamental changes that subsequently underlie excessive and insufficient weight gain occur already at the beginning of pregnancy. Patients with excessive HUMT in the 1st trimester gained weight faster, mainly due to the fat component, which in this group was significantly higher than in pregnant women with recommended (p = 0.000) and insufficient (p = 0.000) HUMT levels. In the future, this difference persisted for 2 (p =0.000) and 3 (p=0.000) trimesters, up to the moment of delivery (p=0.001). At first, this difference was due to the accumulation of fat in the upper half of the body (SHB of the shoulder) (p = 0.005). In the process of gestation , differences appeared already in other areas - the thickness of all CLJs with excessive gain exceeded those with normal HUMT: on the shoulder (p = 0.002, p = 0.000 and p = 0.004, respectively, at 24–26, 34–36 weeks and by the time childbirth), abdomen (p=0.002, p=0.004 and p=0.003 respectively), thigh (p=0.000, p=0.001 and p=0.000, respectively). As a result, the total amount of adipose tissue in patients with excessive HUMT exceeded the %BMT in other groups.

Our study showed that insufficient weight gain during pregnancy is mainly due to a lag in the growth of non-fat mass and the fetal-placental component with an insignificant contribution of fat: there was no difference between those women who had the recommended and insufficient HUMT in terms of the amount of fat and its distribution. Having slightly increased in the first half, subcutaneous fat in these women remained at a consistently low level until the end of pregnancy. Probably, the supply of the fetus in this case is mainly due to products coming from outside, and to a lesser extent due to lipolysis , typical for the physiological course of the second half of gestation . Therefore, insufficient fetal growth may be due to inadequate energy supply (maternal nutrition) in the third trimester, and not to placental disorders. This hypothesis is confirmed by the lower weight of the placenta (p = 0.027) and the fetus (p = 0.031) with insufficient HUMT.

Excessive gestational weight gain is associated with excessive accumulation of adipose tissue that occurs already from early pregnancy. The lack of weight gain is mainly due to an inadequately small increase in lean mass, including the fetoplacental complex.

Women with normal body weight and her gestational weight gain in the range or less than the recommended content of fat mass after childbirth corresponds to the baseline. With excessive weight gain, a progressive increase in body fat occurs, accompanied by their excessive accumulation by the time of delivery with predominant deposition of the gluteofemoral type.

With the initial excess of body weight, excessive weight gain was most common (52%), less often - the recommended level of LMWH (40%), in isolated cases (8%), an insufficient increase in body weight was found.

Thus, excessive gestational weight gain occurs in every second woman with initial overweight and obesity. In addition, obese pregnant women are the most likely to deviate from WHO recommendations and the revised IOM criteria for gestational weight gain. Our results, as well as numerous literature data indicating the negative impact of both excessive and insufficient weight gain during pregnancy on the subsequent health of the mother and child, determine the need to develop recommendations aimed at limiting excessive gestational weight gain, as well as obtaining mothers of information about the consequences of excessive GNMT.

Literature:

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