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Research Article

FETAL MACROSOMIA. OBSTETRIC AND PERINATAL OUTCOMES

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ABSTRACT

One of the significant medical and social problems is pregnancy and childbirth in the presence of a large fetus. Macrosomia in most literature is defined as birth weight >4000 g and occurs in 10% of pregnancies. This condition is associated with risks for both the mother and the fetus: the frequen-cy of cesarean section, trauma to the birth canal, shoulder dystocia and perinatal asphyxia increas-es.

KEYWORDS

Large fetus, macrosomia, birth, pregnancy, childbirth complications.

INTRODUCTION

One of the significant medical and social problems is pregnancy and childbirth in the presence of a large fetus. Macrosomia in most literature is defined as birth weight >4000 g and oc-curs in 10% of pregnancies [1, 11, 15]. This condition is associated with risks for both the mother and the fetus: the frequency of cesarean section, trauma to the birth canal, shoulder dystocia and perinatal asphyxia increases. The American Association of Obstetricians and Gynecologists (ACOG) defines macrosomia as a birth weight > 4500 g, since the incidence of postpartum com-plications increases significantly after this value [2, 13, 17]. Children

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weighing more than 4000 g are more often born to multiparous women in the presence of obesity and diabetes mellitus [7, 12, 14]. Birth weight depends on many factors: genetic, environmental and constitutional, metabolic disorders, gender, ethnicity; currently there are normative values even for specific ethnic groups.

Women with a predominantly sedentary lifestyle and reduced physical activity in the third trimester of pregnancy have a high risk of developing fetal macrosomia. The problem of a large fetus deserves the close attention of doctors of various specialties - obstetricians, neonatolo-gists, neurologists, since pregnancy and childbirth with a large fetus are often complicated. Perina-tal morbidity and mortality in fetal macrosomia are 5–10 times higher than in children born with normal body weight [4, 17, 19].

Most authors note that with fetal macrosomia, complications begin to develop even during pregnancy. According to a number of authors [3,5], among complications of the gestational period in patients with fetal macrosomia, gestosis, anemia, and early toxicosis are detected significantly more often than in the population; polyhydramnios.

Gestational diabetes mellitus is a known clinical risk factor for the development of fetal macrosomia and accounts for 90% of all types of diabetes observed in pregnancy. In women with GDM, fetal macrosomia is the main complication, which often, together with others, serves as an indication for a planned CS in order to reduce potential perinatal complications.

Childbirth with a fetal weight of 4000 g or more often occurs with complications: primary and secondary weakness of labor, untimely rupture of amniotic fluid is observed; pelvic-cephalic disproportion of fetal origin occurs 5 times more often than with normal fetal sizes; shoulder dys-tocia occurs significantly more often during the pushing period. Therefore, when a large fetus is diagnosed, the number of planned cesarean sections and operative vaginal births increases [8, 9,10]. With fetal macrosomia, the risk of amniotic fluid aspiration syndrome, birth trauma in mother and child increases significantly, and a higher incidence of asphyxia at birth is recorded [6, 16]. In the afterbirth and early postpartum periods, due to overstretching of the uterus due to a large fetus, hypotonic bleeding occurs more often [20, 21].

Having analyzed perinatal outcomes, we revealed a high incidence of hemorrhage in the adrenal gland of newborns weighing 4500 or more after natural birth. The same authors noted high risks of clavicle fractures, low assessment of the newborn's condition on the Apgar scale at 5 minutes, and birth in a state of hypoglycemia in case of fetal macrosomia. The consequences of chronic suffering of a large fetus in the antenatal period lead to a disruption of adaptation process-es, a decrease in resistance to the action of

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unfavorable environmental factors, and deviations in physical, somatic and neuropsychic development in the postnatal period of ontogenesis. It is known that macrosomia in girls at birth during puberty is manifested by advanced physical devel-opment with a relative delay in sexual development; menstrual function is characterized by hy-permenstrual syndrome and irregular menstrual cycle (17.8%), high frequency of dysmenorrhea (54.4%) and uterine bleeding during puberty (35.7%); dyshormonal changes in the mammary glands (67%) and hyperandrogenism syndrome (58.1%); echographic signs of peripheral type of polycystic ovaries and persistent retention formations of the ovaries.

Modern methods for predicting fetal macrosomia have their advantages and disadvantages. Identification of risk factors and the use of clinical methods for assessing estimated fetal weight are accessible, non-invasive and easy to use, but have low predictive value. The error in ultrasound assessment of fetal weight in macrosomia reaches 29% with a high rate of false-positive results [18,22]. Magnetic resonance fetometry is highly accurate and informative, non-invasive, allows you to obtain sections in any plane without projection magnification, study the anatomical struc-ture and dimensions of the small pelvis, and also perform fetometry. However, MRI is an expen-sive study, which requires the development of clear indications for its implementation.

Thus, the relevance of timely diagnosis of fetal macrosomia, which influences the choice of optimal delivery tactics, is beyond doubt. The ideal model for preventing possible perinatal com-plications is to eliminate the causes of fetal macrosomia.

Considering the relevance of the problem of predicting macrosomia in modern obstetrics, the lack of effective methods for assessing the estimated fetal weight, the high level of obstetric and perina-tal complications caused primarily by fetal-pelvic disproportion during childbirth, further research in this direction is necessary

The above suggests that fetal macrosomia is one of the pressing problems of modern obstetrics, caused by a high percentage of complicated pregnancy and childbirth, leading to serious medical, social and economic consequences. An ideal model for prevention the formation of fetal macro-somia is to eliminate the causes of its occurrence. Currently, there is no clear understanding of the causes and processes leading to fetal macrosomia.

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