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POLYHYDRAMNIOS OF PREGNANT WOMEN AND ITS RELATION WITH OBSTETRIC COMPLICATIONS AND PERINATAL DISORDERS

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Summary

Paying attention to extremely high frequency and a huge variety of serious complications and consequences, pregnancy polyhydramnios is an important and urgent problem in obstetrics. Studies on this issue are mostly fragmented and focused mainly on the pathogenesis, diagnosis and treatment of disease, without revealing the molecular mechanisms of fetus distress. The relevance and practical importance of this work shows the fact that, except generalization and systematization of previous data there was conducted a detailed analysis of risk factors, prognosis of complications, given the prevention activities and also it focuses on comprehensive consideration of the problem and the need for cooperation between different sectors of medicine for better treatment and prevention of this pathology, which is an indisputable indicator of the importance of research.

Key words: pregnancy, polyhydramnios, intrauterine infection, risk factors, prevention.

БАГАТОВОДДЯ У ВАГІТНИХ ТА ЙОГО ЗВ'ЯЗОК З АКУШЕРСЬКИМИ ПОРУШЕННЯМИ ТА ПЕРИНАТАЛЬНИМИ УСКЛАДНЕННЯМИ

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Резюме

Враховуючи надзвичайно високу частоту і велику кількість найрізноманітніших важких ускладнень та наслідків, багатоводдя у вагітних є важливою і актуальною проблемою в акушерстві. Дослідження, присвячені даній проблемі в основному, носять фрагмент ний характер характер і спрямовані, в основному на вивчення патогенезу, діагностику та лікування патології, без розкриття молекулярних механізмів розвитку дистресу плода . Актуальність та практичне значення даної роботи полягає в тому, що тут, окрім узагальнення та систематизації попередніх відомостей, був проведений детальний розбір факторів ризику, прогноз ускладнень, наведено діючі заходи профілактики, а також, приділяється увага всебічному розгляду проблеми та необхідності співпраці між представниками різних галузей медицини для кращого попередження та лікування даної патології, що є незаперечним показником важливості дослідження.

Ключові слова: вагітність, багатоводдя, внутрішньоутробне інфікування, фактори ризику, профілактика.

МНОГОВОДИЕ У БЕРЕМЕННЫХ И ЕГО СВЯЗЬ С АКУШЕРСКИМИ НАРУШЕНИЯМИ И ПЕРИНАТАЛЬНЫМИ ОСЛОЖНЕНИЯМИ

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Резюме

Учитывая чрезвычайно высокую частоту и большое количество самых разнообразных тяжелых осложнений и последствий, многоводие у беременных является важной и актуальной проблемой в акушерстве. Исследования, посвященные

данной проблеме в основном, носят фрагментарный характер и направлены, в основном на изучение патогенеза, диагностики и лечения патологии, без раскрытия молекулярных механизмов развития дистресса плода. Актуальность и практическая значимость данной работы заключается в том, что здесь, кроме обобщения и систематизации предварительных сведений, был проведен детальный разбор факторов риска, прогноз осложнений, приведены действующие меры профилактики, а также уделяется внимание всестороннему рассмотрению проблемы и необходимость сотрудничества между представителями различных отраслей медицины для лучшего предупреждения и лечения данной патологии, что является неоспоримым показателем важности исследования.

Ключевые слова: беременность, многоводие, внутриутробное инфицирование, факторы риска, профилактика.

Pathology of the amniotic environment is an actual problem of modern obstetrics, as it is one of the serious complications of pregnancy, ruining fetoplacental homeostasis and causing a high risk of perinatal pathology and mortality [2].

Studies on this issue are mostly fragmented [3].

It was proved that pathology around fetal environment of pregnant women is one of the most common, which is difficult to prevent, and that leads to unpredictable complications [2].

Polyhydramnios is determined as excessive amount of amniotic fluid more than two standard deviations above the average for the period of pregnancy.

The amount of amniotic fluid exceeds up to 1.5 litres and can reach 2-5 litres, and sometimes - 10-12 litres and more. So there are three degrees of polyhydramnios: mild, moderate and severe, where the amount of amniotic fluid is 3 litres, from 3 litres to 5 litres, and more than 5 litres. According to different authors, the incidence of this pathology varies widely from 1:60 to 1: 750 of pregnant women.

There is a great practical interest of frequency detection, risk factors, peculiarities of pregnancy, childbirth and the postpartum period, fetus and newborn condition at polyhydramnios infectious genesis.

There are chronic and acute polyhydramnios. Chronic polyhydramnios develops gradually, and the pregnant usually adapts to this condition without discomfort from uterine enlargement. Acute polyhydramnios occurs quickly, and complaints of pregnant are more pronounced. Generally, acute polyhydramnios develops in the earlier stages of pregnancy (at

16-24 weeks) and extremely rare - from 0.008 to 0.03% of cases, there are acute infections or complications of chronic infections, especially viral and viral-bacterial. In acute polyhydramnios there are the rapid increase in abdomen size that does not match with the term of pregnancy, uterine wall tension, pain in the lumbar and groin areas, shortness of breath, due to rapid changes in abdominal pressure there is an expressed swelling. Palpation does not clearly define parts of the fetus, his heart is auscultated badly. Unlike acute polyhydramnios chronic intra-abdominal pressure is not higher than normal.

Complete clinical and laboratory examination of the pregnant woman is important in diagnosis. A rapid increase in the uterus is detected on examination, which does not match to the period of pregnancy. The uterus is tense, tightly elastic or even has dense texture (at heavy degree of polyhydramnios). Abdominal circumference at the navel is more than 100 cm. Palpation of fetal parts is difficult, malposition is often marked, palpitations are weak or cannot be heard. Vaginal childbirth study reveals a dramatic tension membranes, both during and in the absence of birth pains.

The most accurate diagnosis of hydramnios can be placed after the ultrasound studies. At polyhydramnios it is characterized with large expanses of echo negative spaces in the uterus. This is usually marked with increased fetus motor activity, his limbs, internal organs, umbilical cord are better displayed. Vertical size "pocket" is 8-18 cm in moderate polyhydramnios, this figure exceeds 18 cm in severe polyhydramnios. Thus, ultrasound amniotic fluid is important in obstetric practice because it allows the dynamic monitoring of changes in the number of amniotic fluid, specify the fetus condition, and therefore obstetric tactics [12].

Mechanisms of polyhydramnios and now are still incomplete, although inciting factors outlined in the scientific literature are set clearly enough [10]. The main causes of polyhydramnios are still considered - microbial, viral infection, abnormalities of the ovum and severe extragenital pathology of mother.

When there is mechanical obstruction of the gastrointestinal tract of the fetus, such as esophageal atresia, duodenal ulcer or another part of the intestine, bowel squeezing pleural effusion or cyst of the ovary, is also insufficient usage of amniotic fluid of the fetus, which leads to polyhydramnios. Also, one of the leading problems is intrauterine infection (IOU) 7]. Important role in its pathogenesis is amniotic infection syndrome, one of the characteristic clinical signs of polyhydramnios. Several authors indicate that polyhydramnios accompanies such conditions as fetal muscular dystrophy, autosotrisomy, and with a large fetal moderate

polyhydramnios late pregnancy is common. Polyhydramnios incidence of intrauterine infection of infected pregnancy reaches 66,7-74% [6].

Specificity of clinical course of intrauterine infection of the fetus, including multifactor (specific and non-specific) action of infectious agent on fetus, absence of marked correlation between the severity of infectious and inflammatory diseases of the mother and the degree of fetus condition, lack of clear criteria and approaches to treatment - preventive measures for pregnant women and newborns significantly complicate the diagnosis of polyhydramnios in antenatal period and determine prognosis for a newborn.

There are no specific markers, allowing to detect adequately the presence of fetal infection in polyhydramnios and to assess the fetus condition before birth [1].

During the histological examination for polyhydramnios placenta and inflammatory infiltration of membranes coupled with sclerotic changes in vessels and villous stroma, preventing the absorption of fluid from the amniotic space is more typical and common [8].

In clinical obstetrics anomalies volume of amniotic fluid occurs in 6-12% of cases, polyhydramnios is in 1-4% [8].

Nowadays the growth of polyhydramnios rate is associated with the number of infected women of reproductive age, immune and hormonal disorders. This abnormality usually occurs after 20 weeks of pregnancy and subsequently leads to serious complications: the threat of termination of pregnancy, late spontaneous abortion, the threat of premature birth, the wrong position of the fetus, preeclampsia of the second half of pregnancy, promotes circulatory and breath disorders in pregnancy, chronic placental insufficiency, anomalies of birth pains, stillbirth, uterine bleeding in the third and early postpartum period. Quite often there is a clinic combination of polyhydramnios fetal malformations (to 34.9%), encephalopathy (2/3 cases) was the most often among the defects [5].

The most common complication of pregnancy with polyhydramnios is premature birth. Also pregnancies are complicated with threatened preterm labor, premature detachment of the placenta, distress and antenatal fetal death. Chronic mild polyhydramnios of pregnancy proceeds favourably and in most cases births occur in time. At severe heavy) polyhydramnios premature birth often comes, sometimes abortion is necessary because of increasing blood circulation and respiration of the pregnant.

Childbirth at polyhydramnios is often complicated. At birth there are early and premature discharges of water, abnormal labor, fetal hypoxia, purulent-septic complications after birth. Often there is a weakness of labor activity, because of the uterus overstretching and decrease of contractile activity. The birth pains can be protracted.

A major complication is bleeding polyhydramnios in postnatal and early postnatal periods. Its main cause is usually hypotonia or atony of the uterus (65.6%) and partial tight attachment of the placenta (21.9%) [2].

At the same time accumulation of excess amniotic fluid leads to a number of obstetric complications transverse, oblique position of the fetus. Also it is noted a high incidence of threatened abortion - 42.3%, premature birth - 20%, placental insufficiency - 52% [2].

There is high incidence of fetal malformations at polyhydramnios, which ranges from 8.4% to 63%. Of all malformations central nervous system - 50% takes the first place among the anomalies of the fetus. Encephalopathy is more common. Polyhydramnios at encephalopathy is observed in 60% of cases. At encephaloceles polyhydramnios is a result of extravasation of fluid through the brain tunic of fetus [9].

Paid attention at the connection of water quantity with fetus weight who observed fetal macrosomia at polyhydramnios in 33.3% of cases, confirming an active part of the fetus in the formation and the elimination of water [2].

Often idiopathic polyhydramnios occurs when the mother and fetus abnormality is not detected (20.1-66.7%). Analysis of the literature shows that the incidence of idiopathic polyhydramnios is lower, when more extensive and conducted research in the antenatal period is provided [12].

Polyhydramnios makes pregnancy and childbirth difficult. The frequency of early toxicity is 36% of cases of preeclampsia - from 20% to 35.7% of pregnant women with diabetes - to 82.7. There is also a high risk of premature birth - 42.3% and preterm birth - 20, 2%, placental insufficiency - 52%. According to authors [4] increased mobility of the fetus with polyhydramnios often leads to its transverse position (6.5%) or breech presentation (4.9%).

Pregnancy and childbirth are often (15 to 29.7%) complicated with premature or early spout of amniotic fluid and, consequently, loss of navel-string loops or small parts of the fetus. Weakness of birth activity rates ranges from 16% to 26%, premature detachment of normally situated placenta is 14%. Polyhydramnios serious complication is bleeding in the postpartum and early postnatal periods (acute polyhydramnios in 41.3%, chronic 6.2%). Its main cause is uterine atony or hypotension (65.6%) and partial tight attachment of the placenta (21.9%).As a result of obstetric pathology growth the incidence of surgery increases - from 17.8 to 27.8%.

In addition to complications in childbirth, polyhydramnios commits pathological effect on fetal "patient." Among the complications fetus often (up to 42%) has chronic hypoxia

syndrome and intrauterine growth retardation. Fetal malformations are found in 13,7-26,7%. The most spread malformations are malformations of the central nervous system: encephalopathy (21%), cerebral spinal hernia, hydrocephalus. When polyhydramnios occurs, atresia of the upper gastrointestinal tract, the lungs and kidneys polycystic of the fetus, vertebral teratoma, macroglossia, curvature of the legs are often found. According to Kondratieva E.N. asphyxia causes antenatal and intranatal fetal death in the majority (18.7%) of cases. Due to the increased mobility of the fetus umbilical cord entanglement often happens.

Up to 26% of infants born with polyhydramnios, have the diagnosis of intrauterine infection pneumonia and aspiration syndrome. Due to abortion and due to fetal malnutrition the increased number of children with low birth weight (32%) is also noticed [9].

Polyhydramnios prevention includes the following activities:

1) Identification of pregnant women at high risk;

2) The examination of pregnant women with active detection of source of infection;

3) Early detection and treatment of pregnancy complications;

4) Timely hospitalization at polyhydramnios diagnosis;

5) When polyhydramnios has increased symptoms and there is no effect of treatment – early careful accouchement should be provided;

6) Prevention of postpartum diseases;

7) Examination and treatment of newborns.

The research results convince that pregnant women at risk and susceptibility to infectious diseases require special attention, timely detection and timely treatment of polyhydramnios, hospitalization. During birth pains it is required adequate surveillance and rational choice method of delivery in a hospital. This will reduce the number of complications of pregnant women during childbirth and reduce perinatal and neonatal mortality [5].

The difficulty of identification reasons and rational choice of treatment tactics of pregnant women with polyhydramnios require close cooperation of obstetricians, geneticists, neonatologists and paediatric surgeons.

Paying attention to extremely high frequency and a huge variety of serious complications and consequences, pregnancy polyhydramnios is an important and urgent problem in obstetrics. As mentioned, previous studies on this topic are quite fragmented and focused mainly on the pathogenesis, diagnosis and treatment of disease, without revealing the molecular mechanisms of fetus distress. The relevance and practical importance of this work shows the fact that, except generalization and systematization of previous data there was

conducted a detailed analysis of risk factors, prognosis of complications, given the prevention activities and also it focuses on comprehensive consideration of the problem and the need for cooperation between different sectors of medicine for better treatment and prevention of this pathology, which is an indisputable indicator of the importance of research.

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