

ASSESSMENT OF RISK FACTORS FOR THE DEVELOPMENT OF PELVIC-HEAD IMBALANCE.

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Relevance. Childbirth is the final stage of pregnancy, and the condition of the mother and the newborn depends largely on the correct management, therefore, new high-tech research methods are developed for more effective management of pregnancy and childbirth [1]. Childbirth is a physiological process resulting in the birth of the baby and afterbirth. From the perspective of perinatal obstetrics, the main goal of childbirth is to ensure that the mother and newborn are healthy. In economically developed countries, childbirth is an almost safe process. Intrapartum mortality is less than 1% and maternal mortality is very rare. This has been achieved by taking into account the main factors that influence the course and outcome of childbirth. Uterine contractile dysfunction (UFD) remains an urgent and unresolved problem in modern obstetrics, and is the main cause of complications in labor and the postpartum period, both in women in labor and in newborns. According to different authors, the incidence of ARD varies from 9% to 33% [2].

Objective. The aim of our study was to investigate the causes and risk factors of pelvic-head disproportion

Material and Methods. To conduct a systematic review of the recent 10-year literature sources.

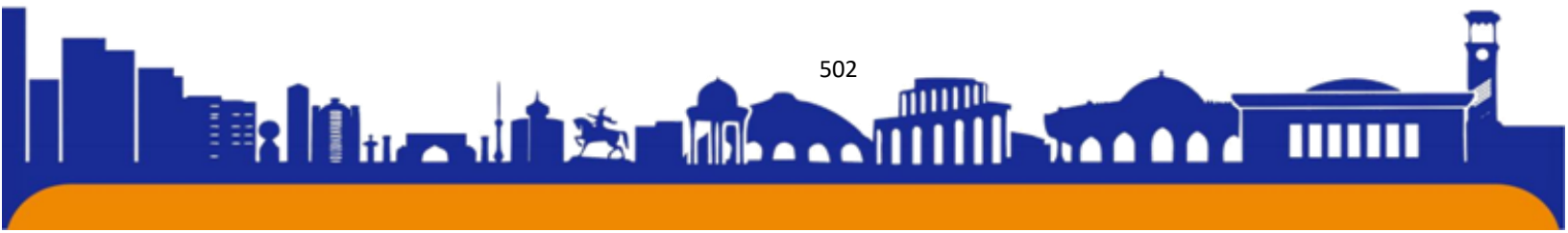
Results. An analysis of 17 sources of foreign literature on the topic was conducted.

Conclusions. The identification of the most significant risk factors for discordant labor activity suggests a major role of the psychoemotional component in the development of labor anomalies, as well as defines a whole range of obstetric pathology, such as placental insufficiency, fetal growth retardation syndrome, antenatal outflow of amniotic fluid in "immature" birth canal, the use of various techniques aimed at "ripening" the cervix improved diagnosis and management tactics can also have an impact on reducing the incidence of labor anomalies and improving birth outcomes for both mother and fetus.

Key words: discordant labor, risk factors, perinatal outcomes, pelvic-head disproportion.

However, the absence of ARD frequency reduction, including dyscoordination, indicates the need to develop a comprehensive, multidimensional approach to solving this problem. The issue of physiology and pathology of labor pains has not been sufficiently studied so far, and the data obtained from the few studies of labor anomalies (LAR) are contradictory [1], although it is believed that LAR significantly affects perinatal morbidity and mortality [2]. The pathogenetic mechanism of the emergence of discoordinated uterine contractions, the role of the adrenergic component of regulation, the peculiarities of myometrial metabolism have not been fully studied [3]. There is no consensus among scientists about the fine structure of myometrial cells and the factors that can affect the quality of muscle contraction [5]. A number of authors believe that the genetically determined number and ratio of active dark uteromyocytes and inactive light (secretory) uteromyocytes determine the risk of labor activity weakness (LAD) and labor activity discoordination (LAD).

SRS usually develops when there is an increase in up to 20% of inactive muscle cells and a decrease in functionally active myocytes in utero, characterized by a high content of contractile proteins. Non-synchronized work of separate groups of smooth muscle fibers due to different traction force at the ends of muscle bundles consisting of different numbers of active and inactive cells is likely to be the basis of DRD development [6]. Most authors identify insufficient "cervical maturity" as the most significant risk factors for DRD. Cervical maturity is assessed by the Bishop score, with a cervix with a Bishop score of 10 being considered mature and, conversely, a cervix with a score between 0 and 6 being considered immature [7]. When an immature cervix is diagnosed, the risk of developing BPD is more than 97%. At the same time, the use of techniques that promote cervical maturation can also contribute to the occurrence of labor anomalies in impending labor [8]. Elevated levels of endogenous progesterone and its metabolites are considered by some authors to be one of the determining factors in the development of BPD, in contrast to the fact that the level of endogenous estrogens does not affect the development of labor anomalies. This fact is confirmed by the detected low values of the gestagen ratio (pregnandiol/pregnanolone) in caesarean section due to the ineffectiveness of conservative of conservative treatment of labor anomalies [6].



A number of authors associate the development of obstetric anomalies with obesity. Obesity, large fetuses, arterial hypertension [8,9,10]. A prospective study has shown that obese women have initially reduced uterine activity [10]. Adiponectin, secreted by adipose tissue, can also reduce myometrial contractility. Adiponectin inhibits myometrial contractility, which is consistent with the possibility that it is a previously unrecognized link between maternal metabolism and maintenance of pregnancy [11]. A metabolic disorder has been discussed as a cause of birth abnormalities [11]. Maternal metabolic dysfunction has been discussed, in particular, several studies have found a significant correlation between maternal metabolism and the maintenance of pregnancy [11]. Studies have revealed a significant correlation between dystocia and hyponatremia, developed during labor. Hyponatremia reversibly increases the frequency of contractions and appearance of biphasic or multiphasic contractions, which can decrease the contractility of the myometrium. This may explain the correlation of hyponatremia and operative labor [12].

According to a number of researchers, a risk factor for labor anomalies is somatic pathology. Anemia is the leading one in the structure of diseases during gestation [13]. Anemia [13], most of which are of iron-deficient nature (up to 90%) due to nutritional deficiencies in the diet of various trace elements (iodine, iron, zinc, etc.). Anemia in pregnant women is also important in the formation of the rheological properties of the blood, indirectly being a risk factor for BPD. Among the main causes of disorganized labor by practicing obstetricians is the lack of readiness of the body for childbirth.

The preparation of the woman's body for the impending birth involves a number of changes, ranging from psychological, characterized by the change of the so-called "dominant pregnancy" to the "dominant childbirth". It should be explained that the "dominant of pregnancy" is the gestational dominant, or "maternal dominant" - a term first proposed and explained by I. A. Arshavsky. It is a special condition that occurs during pregnancy and continues during childbirth and breastfeeding of the newborn. In this case a focus of excitement is formed in a woman's body at the level of the central nervous system, which is characterized by so-called dominant (predominant) ideas of pregnancy and an acute desire of a woman to have a healthy child. Against the background of these thoughts, issues of education, work, and other life circumstances appear to be of secondary importance to the expectant mother [15].

Cervical immaturity at the beginning of labor activity. A situation in which structural and functional changes in the cervix have not yet begun, and it appears to the obstetrician to be long, dense, and the cervical canal closed. This condition can be a risk factor for the development of dyscoordination of labor activity if the pregnancy has been overexpanded or in the case of prenatal dilatation of amniotic fluid [13].

- Hyperstimulation of labor with oxytocin. In most countries of the world, oxytocin is still the leading means of labor induction, but there are strict indications for its use, as well as the method of its use and the dosage of the drug itself are undeniably important. The existing schemes for its use for the induction of labor, i.e. labor induction, differ in the dose and the interval of its increase, in this regard there are low-dose and high-dose schemes. In practical obstetrics, the technique of sequential use of amniotomy and oxytocin for induction of labor is widespread, although there are no evidence-based data on the technology and effectiveness of this technique. At the same time, current evidence, namely the 2012 clinical protocol for cervical preparation for labor and delivery, the basic labor management protocol, as amended in 2019, and the Royal College of Obstetricians and Gynecologists guidelines for induction of labor (RCOG, 2008) do not recommend the simultaneous use of amniotomy (opening of the amniotic bladder) and oxytocin infusion or the sequential choice of amniotomy and oxytocin infusion as the main mode of labor induction due to the high risk of uterine hyperstimulation and discoordinated labor.

In addition to the above, there are risk factors for the development of abnormal uterine contractions that are added to a woman's medical history. And the first item here will be abnormal development of the uterus. There are abnormalities characterized by an abnormal uterus structure: bicornal/single horn, saddle-shaped, double uterus, or intrauterine septum. In the presence of such diagnoses, the reproductive function of a woman can be complicated already at the stage of pregnancy planning, pregnancy and delivery, because most often this pathology predisposes to the wrong position of the fetus during labor, or the development of asynclitism or pathological insertion of the fetal head into the pelvic plane, in which the sagittal seam on the baby's head is deflected to the sacrum or pubic symphysis, which prevents its movement along the birth canal. By talking about pelvic-head disproportion, I meant the development of such a serious complication in childbirth as a clinically narrow pelvis. This is a condition in which there is a discrepancy between

the size of the fetus and the pelvis of the laborer, regardless of the size of the latter. Such a situation can present itself at the beginning of labor with excessive, discordant uterine contractions that are not amenable to conservative therapy. Another possible reason is overstretching of the uterus as a result of a multiple pregnancy, polyhydramnios, changes in the position of the fetus or overpregnancy.

Presence of uterine myomatous nodules.

Among the possible causes of dyscoordination of labor activity there is also the age of the woman in labor. Research by O. R. Baev (2005) [8] indicates a high incidence of uterine dyscoordination in young first-time mothers. Let's review the complications of dyscoordination of labor activity, starting with the least serious ones.

Cervical dystocia is a pathology of uterine contractions in which the external pharynx, due to its spastic state, is an obstacle to the birth of the fetus. Delivery with cervical dystocia is complicated by obstetric trauma to the cervix.

In turn, cervical ruptures are inevitably accompanied by damage to all connective-tissue-muscular structures, as well as nerve endings of the organ, which causes disruption of trophism in the cervix and increases the possibility of inflammatory process attachment. In addition, cervical scar deformation can be a risk factor for cervical insufficiency in subsequent pregnancies and lead to miscarriage.

Another danger of obstetric cervical trauma is the formation of cervical ectropion (or eversion of the cervical canal mucosa), which predisposes to the formation of precancerous conditions that increase the risk of cervical cancer. The literature describes data that more than 40% of women develop cervical dysplasia after cervical obstetric trauma. Labor in which dysplasia has developed can be managed conservatively, through natural birth canal, or by Cesarean section surgery, depending on the cause of the pathology, the condition of the laboring woman, the severity of the process and complications encountered, as well as the condition of the fetus. Prevention of dyscoordination of labor activity. While registering a pregnant woman taking into consideration her medical history and examinations the risk groups are distinguished for the development of this or that pathology. Knowing the presence of risk factors that may lead to the development of discordant labor, the doctor informs her patient, and together they begin preventive measures aimed at both physical and psychological health of the expectant mother and preparation for labor.

These measures include:

- Attending a pregnant women's school in order to prepare emotionally and psychologically for the upcoming birth of the baby, as well as to make the woman more aware of the process of childbirth and the postpartum period;
- prenatal hospitalization of pregnant women at risk in an appropriate level of care;
- in the prenatal hospitalization stage, if indicated, therapies to ensure the maturation of the cervix and to prepare for childbirth [14].

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