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**PECULIARITIES OF LABOR MANAGEMENT IN CASE OF  
PRENATAL RUPTURE OF FETAL MEMBRANES**

**Resume:** This article presents data on the current state of the problem of premature prenatal rupture of the membranes in premature pregnancy, the frequency of this pathology, its causes, diagnostic methods and outcomes for the fetus and newborn, modern approaches to pregnancy management in this pathology.

**Key words:** premature prenatal rupture of membranes, premature pregnancy, perinatal outcomes.

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**ОСОБЕННОСТИ ВЕДЕНИЯ РОДОВ ПРИ ДОРОДОВЫМ  
РАЗРЫВЕ ПЛОДНЫХ ОБОЛОЧЕК**

**Резюме:** В данной статье представлены данные по современному состоянию проблемы преждевременного дородового разрыва плодных оболочек при недоношенной беременности, частоте данной патологии, ее причинах, методах диагностики и исходах для плода и новорожденного, современные подходы ведения беременности при данной патологии.

**Ключевые слова:** преждевременный дородовый разрыв плодных оболочек, недоношенная беременность, перинатальные исходы.

**Relevance.** The problem of premature birth remains unresolved all over the world, being the main cause of morbidity and death of newborns, as well as the development of severe complications, often leading to disability [4]. Over

the past 20 years, the frequency of premature births has not decreased, despite all the efforts made by obstetricians and their patients. The use of modern medical methods of treatment - using tocolytic and hormonal drugs, also did not lead to the expected decrease in the frequency of premature birth, since there are many reasons for the development of premature birth, and premature birth itself begins much earlier than the appearance of clinical signs [7].

Prenatal rupture of the fetal membranes (DRPO) is the rupture of chorioamniotic membranes before the onset of labor, regardless of the gestation period. The incidence of DRPO is 10-15% of the total number of pregnancies. The main complication associated with DRPO is premature birth, which, in turn, leads to the following complications in newborns: respiratory distress syndrome, intraventricular hemorrhages, infections, necrotic enterocolitis and sepsis. Approximately 5% of patients with DRPO give birth before the due date.

The second most common complication is infection (chorioamnionitis). Its frequency increases with a shorter gestation period at the time of rupture of the membranes, as well as with the contamination of the contents of the cervical canal with gonococcal and streptococcal (group B) microflora. Other complications are umbilical cord prolapse and placental abruption [2].

Risk factors for perinatal morbidity and mortality in preterm labor are the gestation period, fetal weight and features of the course of labor [1].

One of the most common causes of the development of premature labor is PRPO, which is clinically manifested by the outpouring of amniotic fluid. In the structure of the causes of premature birth, this pathology reaches 35-60% [3,5].

First of all, it is necessary to clarify that the term PRPO is used only for premature pregnancy, and does not imply division from the place of rupture, or rupture of the fetal bladder. PRPO should be considered as an independent complication of pregnancy, which has its own characteristics of etiopathogenesis, clinical outcome of pregnancy [2,6].

To date, the outpouring of amniotic fluid during premature pregnancy is an urgent, complex obstetric problem that remains largely unresolved, due to the lack of consensus on management tactics, the frequency of complications, and perinatal outcomes [4,7].

The etiology and pathogenesis of PRPO has been studied for a long time, many etiological factors are described in the literature, such as the influence of climate, biological circadian rhythms, low atmospheric pressure and the spring-autumn period [6].

Risk factors include habitual miscarriage, premature birth and a history of preterm labor and high parity. Constant stress and overwork associated with heavy mental and physical labor significantly increase the risk of developing PRPO [4].

To date, there is no single concept about the cause of the PRPO. The etiology of PRPO in most cases remains unknown. Basically, the following reasons are distinguished:

1. Structural changes, fetal membranes, associated with a violation of the balance between the synthesis of collagen and its decay.
2. Infectious lesion.
3. Mechanical factors - (polyhydramnios, multiple births, diagnostic manipulations).

Fetal membranes are a structural and metabolic tissue consisting of: amniotic epithelium of the chorionic connective tissue, w decidua membranes: W fetal membranes: there are five types of collagen;- and their; . strength is determined by; collagen? the composition of the connective tissue matrix and basement membranes: Resistance; to stretching is provided by; collagen; D and A type III of which the connective tissue matrix consists. The basement membrane; and the connective tissue matrix are interconnected? for? collagen score? In both cases, type IV collagen is typically found in the basal membrane of the amnionic chorion [2].

Destruction of the connective tissue matrix of the fetal membranes, and degradation of collagen, is provided by endogenous collagenases called matrix metalloproteinases (MMP). Matrix metalloproteinases and metalloproteinase inhibitors are synthesized by fetal membranes. MMP-1 provides the cleavage of type I, II and III collagen, and MMP-2 and MMP-9 cleave type IV collagen. Destruction of interstitial collagen (type I)- provides MMP-8. Amniotic fluid contains; MMP-7, which ensures the destruction of fibronectin and proteoglycans [3]"

**The purpose of the study.** To develop and implement measures to optimize the tactics of labor management in case of premature rupture of the fetal membranes before the start of urgent labor, taking into account risk factors.

**Materials and methods of research.** The analysis of 82 births of women admitted to the AOPC in 2020 was carried out. Of these, 62 births of women with DRPO during full-term pregnancy (group I) and 20 birth histories of women with timely outpouring of amniotic fluid (SIOV) also (group II).

The age of patients in the first group ranged from 17 to 40 years, averaging  $25.83 \pm 0.23$  years, in the second group from 17 to 44 years and averaged  $25.26 \pm 0.35$  years.

**The results of the study.** The most significant factors affecting premature rupture of the fetal membranes before the onset of urgent labor are: diseases of the upper respiratory tract during pregnancy (73.9%), chronic inflammatory diseases of the urinary system (51%), diseases of the pelvic organs (50.5%), burdened with abortions (15.8%) and miscarriages (16.9%) obstetric history

The frequency of PRPO before the onset of urgent labor is 15.5% - 16% and occurs in (63.6%) of cases with a gestation period of 37-38 weeks. In autumn-winter, this complication is noted 2.5 times more often compared to the timely outpouring of amniotic fluid.

With PRPO, the frequency of complications of the birth act increases, umbilical cord entanglement occurs 5 times, chronic intrauterine fetal hypoxia -

7 times, rupture of the soft tissues of the birth canal - 2 times more often than in the control group.

An unfavorable premorbid background in the form of an increased number of inflammatory diseases affects the state of the microecosis of the birth canal in the dynamics of PRPO. At the same time, the microbial landscape is represented by conditionally pathogenic flora both in childbirth and in the postpartum period and depends on the irrational use of antibiotics and unreasonably performed obstetric manipulations. The microflora of the newborn is identical to the microflora of the birth canal of the mother and determines non-unpleasant perinatal outcomes.

The prognostic criteria for the fetal condition in prenatal labor before the onset of urgent labor are the motor and respiratory activity of the fetus.

Conservative management of labor in PRPO is determined in the absence of signs of infection and intrauterine fetal suffering. Careful management of childbirth with PRPO with the use of partographic control and compliance with the principles of infection prevention helps to reduce the risk of nosocomial infection. The use of antibiotics in women in labor with PRPO is necessary after 18 hours of anhydrous interval in the presence of an unfavorable premorbid background.

**Conclusion.** On the basis of the conducted research, prognostic criteria for the development of the risk of premature amniotic fluid outpouring have been scientifically substantiated, evaluated and proposed for the practice of obstetric institutions.

The developed algorithm of labor management will reduce the frequency of obstetric and perinatal complications and optimize outcomes for the mother and newborn.

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