### FEATURES OF THE COURSE OF PERINATAL VIRAL HEPATITIS

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#### Resume

Parenteral viral hepatitis (VH) is one of the most important problems of modern hepatology and human infectious pathology, since in terms of growth rates and prevalence on the globe, they significantly exceed the incidence of other infections. Thus, according to WHO, 3-4 million people are infected with the hepatitis C virus every year, more than 240 million people have chronic liver damage caused by the hepatitis B virus.

Key words: pregnancy, hepatitis B, perinatal outcomes, hepatology, infection.

### ОСОБЕННОСТИ ТЕЧЕНИЯ ПЕРИНАТАЛЬНЫХ ВИРУСНЫХ ГЕПАТИТОВ

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#### Резюме

Парентеральные вирусные гепатиты (ВГ) являются одной из наиболее важных проблем современной гепатологии и инфекционной патологии человека, так как по темпам прироста и масштабу распространенности на земном шаре они значительно превосходят заболеваемости другими инфекциями. Так, по данным ВОЗ ежегодно 3-4 миллиона человек инфицируются вирусом гепатита С,более 240 миллионов человек имеют хронические поражения печени, обусловленные вирусом гепатита В.

Ключевые слова: беременность, гепатит В, перинатальные исходы, гепатология, инфекция.

### ПЕРИНАТАЛЬ ВИРУСЛИ ГЕПАТИТЛАРНИ КЕЧИПІ ХУСУСИЯТЛАРИ

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# Резюме

Парентерал вирусли гепатит В замонавий гепатология ва инфекциянинг асосий муаммоларидан бири саналиб, ушбу касаллик ер юзи ахолисининг жуда катта қисмига хавф солмоқда. БЖССТ маълумотига кўра, хар йили 3-4 миллион инсонлар вирусли гепатит С билан хасталанадилар, 240 миллиондан ортик инсонлар эса вирусли гепатит В билан хасталанадилар.

Калит сўзлар: хомиладорлик, гепатит В, перинатал окибатлар, гепатология, инфекция.

# Introduction

Perinatal transmission of tasty hepatitis A, B, C from mother to child can be realized prenatally (transplacetal), intrapartum (during childbirth) or postnatally - during the care of the newborn.

According to a number of researchers, viral hepatitis is much more severe during pregnancy. GA has no significant effect on fetal development. GV is much more severe and is dangerous to the fetus [2].

Infection of children can occur from mothers with both acute and chronic hepatitis B, as well as virus carriers (Shekhtman M.M.). Currently, it is considered a recognized provision on the possible prenatal infection of the fetus with hepatitis B.

Transplacental infection occurs in children born to HBsHg carrier mothers. However, there is a hypothesis about a more frequent intrauterine infection of the fetus. In this case, the HB virus infects the fetus, however, active rectification of the hepatitis B virus in hepatocytes does not occur (Andriutsa K.A., Vyazov S.D., Blokhina N.P.). During childbirth, infection occurs through the birth canal, when the baby's skin is significantly macerated by waters (Shekhtman M.M., Martynov K.A.). It has been suggested that newborn

infants may be infected as a result of ingestion or aspiration of amniotic fluid containing VH.

Parenteral viral hepatitis (VH) is one of the most important problems of modern hepatology and human infectious pathology, because they significantly exceed the incidence rates of other infections by the rate of growth and scale of prevalence on the globe [1, 2]. Thus, according to the WHO, 3-4 million people are infected each year with the hepatitis C virus, more than 240 million people have chronic liver damage caused by the hepatitis B virus [3, 4, 5].

The frequency of detection of antibodies to hepatitis B and C in pregnant women ranges from 1-2.5% in countries of Western Europe, USA, Japan and Australia to 10% and higher in some countries in Africa and the Middle East. In regions of the Russian Federation with a moderate intensity of the epidemic process, the frequency of detection of a ^ -H ^ among pregnant women is 0.9% in 1997 and 2.8% in 2002. A higher frequency is registered among pregnant women at risk, among infected with human immunodeficiency virus it is 17-54% [1].

Studies of hepatologists found that viral hepatitis B and C and pregnancy have a mutually exerting influence. Manifestations of this influence are a high percentage of malnutrition - the threat of abortion occurs 2.5 times more

often than in healthy pregnant women; placental insufficiency - signs of intrauterine fetal hypoxia and intrauterine growth retardation syndrome occur in 22-25%, a threat of infection is created [9, 10, 11, 12]. In most patients, pregnancy does not adversely affect the course of the disease and does not pose a risk to the mother. The course of chronic viral hepatitis in pregnant women is characterized, as a rule, by low activity and a rarity of exacerbations [1, 9, 10].

All of the above leads to an increase in the number of pregnant and parturient women among women suffering from HH, which poses a real threat not only to the life and health of the future mother, but also to a child who can become an asymptomatic carrier of infection, develop acute or chronic hepatitis with cirrhosis and hepatocellular carcinoma.

The purpose of the study: study of clinical manifestations and outcomes of perinatal infection, viral hepatitis, its transmission to infants and the duration of circulation of specific antibodies in them.

### Material and methods

We conducted a retrospective analysis of 75 histories of labor with chronic viral hepatitis B and C and 76 (one twins) of newborn histories.

### Result and discussion

The average age of pregnant women was  $25.1 \pm 3.72$  years. Chronic viral hepatitis B was diagnosed in 25 patients (33.3%), 49 women with chronic viral hepatitis C (65.3%) and 1 woman with viral hepatitis B and C (1.3%).

The data of the social status assessment revealed disadvantages in the study group: unemployed, excluding housewives, 10 (13.3%); not married, excluding civil marriage, - 8 (10.7%); most patients had bad habits: smoking in 29 cases (38.7%), alcohol dependence was observed in 4 patients (5.3%), and addiction was detected in 10 (13.3%) patients.

When analyzing the available extragenital pathology, it was found that more than half of the women in the group (66.7%) were often ill during childhood and suffered several childhood infections. The most frequent cases of cardiovascular diseases (vegetovascular dystonia, hypertension) taken by us were diagnosed in the pregnant women (15.9%), diseases of the digestive organs (chronic cholecystitis, gastritis) -13.3%. 18 women (24%) had hepatitis A. When analyzing women's awareness of the diagnosis of viral hepatitis B or C before pregnancy, only 19 patients (25.3%) from the entire study group were aware of the existence of the diagnosis. According to WHO in developed countries, only 1 / 4-1 / 3 of young women are diagnosed with chronic HF prior to pregnancy [4, 5].

These estimates of the reproductive function indicated practically the same ratio of the first and the re-rooted - 45 (60%) and 30 (40%), respectively. He draws attention to the fact that among the primiparous first-pregnant women there were only 24 patients (53.3%), abortion predominated through spontaneous abortion - 13.7% or medical abortion - 26.7%. Gynecological history is burdened in every second patient, most often: inflammatory diseases of the pelvic organs - 18.6% of cases; Sexually transmitted infections - 17.2%.

The features of the current pregnancy testified that every other pregnant woman was not registered for pregnancy in a women's consultation (33, or 44%). In the patients of the study group, in most cases the pregnancy proceeded against a background of various complications. The most frequent in early terms were: the threat of termination of pregnancy - 17.2% of cases, early toxicosis - 21 pregnant (28%), anemia of pregnant women -6 (8%) cases. Uncomplicated during the first half of pregnancy was observed in 32 women (42.7%). The phases of exacerbation of viral hepatitis in the first half of pregnancy were not observed in any patient.

The second half of pregnancy proceeded against the threat of termination of pregnancy in 10 (13.3%) patients, anemia was observed in 38.7% (29 women) of cases, moderate preeclampsia was detected in 25 pregnant women (33.3%). Disorders from the mother-placenta-fetus (hemodynamic disturbances, intrauterine growth retardation) were diagnosed in 19 pregnant women (25.3%), polyhydramnios in 6 (8%) patients, low water level-5 (6.7%). The diagnosis of "cholestasis" was exposed to 2 women - 2.7%, an exacerbation of HCV with worsening of the general condition was observed in 1 pregnant woman - 1.3%. In 16 (21.3%) women, the course of the second half of pregnancy proceeded without complications.

Serological and biochemical blood test data of the women studied showed that 25 (33.3%) pregnant women had HbsAg, 49 (65.3%) had antibodies to viral hepatitis C, one woman had HbsAg and antibodies to viral hepatitis C (1.3%).

Biochemical blood test allowed to reveal the following deviations: the average value of the total protein was 64.87  $\pm$  6.71 g / l; an increase in bilirubin was detected in 5 (6.7%) pregnant women (the maximum value was 65.7  $\mu$ mol / l); an increase in ALT occurred in 2 (2.7%) women, reaching a maximum of 2  $\mu$ mol / h / l (No to 0,68 mkmol / h / l), AsAT - in 3 (4%) women, up to a maximum of 0.85  $\mu$ mol / h / l (No up to 0,45  $\mu$ mol / h / l); an increase in thymol test was observed in 2 (2.7%) pregnant women, up to 7 ED (No.4 ED), alkaline phosphatase was increased in 12 (16%) people. Changes in coagulogram indices were not detected in any patient.

In order to compare the parameters of biochemical screening, a group of practically healthy women with uncomplicated course of the gestational process (n = 21) was recruited in the patients of the study group with the indices during a physiologically occurring pregnancy. When analyzing the data obtained in the study group, significant differences were found between the mean indices of bilirubin - 18.83  $\pm$  3.64  $\mu mol$  / 1 and AlAT -0.64  $\pm$  0.12  $\mu mol$  / h / 1 in the direction of increase in comparison with the physiologically of pregnancy (p <0,05). The average values remained within the normative values.

### **Conclusions**

- 1. Testing for markers of viral hepatitis B and C three times (in every trimester of pregnancy) is a routine examination method that allows to reveal asymptomatic carriage of the hepatitis virus, but does not exclude the possibility of further infection.
- 2. Viral hepatitis B and C have a negative effect on the course of pregnancy of both the first and second half, causing a threat of termination of pregnancy (13.3%), placental insufficiency (25.3%), moderate and severe preeclampsia (33.3%). Each third pregnant woman (32%) exhibits changes in the biochemical parameters of blood

(total bilirubin, aminotransfeps, alkaline phosphatase, thymol test) in the direction of increase.

- 3. The presence of changes in the utero-placental complex (chronic fetal hypoxia, fetal I and II of the fetus) leads to a complicated course of the early neonatal period of newborns (development of cerebral ischemia of I and II degrees (60%), newborns' hypotrophy (28%), VAI (24%)).
- 4. Based on our data and literature data, it can be reliably asserted that transplacental transmission of HBV and HCV C antibodies exists, as according to the data obtained, 6.7% of newborns are diagnosed with HBsAg, 58.7% have antibodies to SH C. In 36% of cases, HBsAg and antibodies to HCV were not detected. However, to solve the problem of possible infection of the child, a repeated laboratory examination of the blood for the presence of viral antibodies and RNA / DNA at 1-, 3-, 6-, 12-, 18- months of pregnancy is necessary.

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Entered 09.11. 2020