Volume 3, Issue 5, May 2025 ISSN (E): 2938-3765

THE COURSE OF CHRONIC VIRAL HEPATITIS B IN PREGNANT WOMEN

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Abstract
Viral hepatitis is one of the most significant public health problems worldwide, as chronic infection can lead to liver cirrhosis, hepatocellular carcinoma, and death [Yim SY, Kim JH. The epidemiology of hepatitis B virus infection in Korea.

Introduction
Korean Journal of Internal Medicine. September 2019; 34 (5): 945-953]. Globally, in 2017, about 257 million people were living with chronic hepatitis caused by hepatitis B virus (HBV) [Platt L, French CE, McGowan CR. Prevalence and burden of HBV co-infection among people living with HIV: A global systematic review and meta-analysis. Journal of Viral Hepatitis . 2020 March ; 27 (3): 294-315]. The virus is most often transmitted from mother to child during childbirth, as well as through contact with blood or other biological fluids of the body [Hepatit D. [Internet]. Vsemirnajaorganizationzdravoohranenija; 2020]. The incidence of hepatitis B is highest among young people, which is explained by the leading routes of infection - parenteral, sexual and vertical. The increase in the incidence of chronic viral hepatitis B (CHB) inevitably leads to greater involvement in the epidemic process of women of reproductive age, including pregnant women [Liu J, Wang J, Yan T. Efficacy and safety of telbivudine and tenofovirdisoproxilfumarate in preventing hepatitis B vertical transmission: A real-life practice . Journal of Viral Hepatitis. 2019 October; 26 (10): 1170–1177]. In areas where hepatitis B virus (HBV) is endemic, mother-to-child transmission is the main route of infection for children [Hou , J, Email Author, Cui F. Management Algorithm for Interruption Mother-to-Child Transmission of Hepatitis B Virus Clinical Gastroenterology and Hematology. 2019 September; 17(10): 1929-1936]. Uzbekistan is one of the countries with insufficient data on the prevalence of HBV. The population is almost 34 million, and liver diseases are one of the major health problems. According to statistics, the prevalence of HBV in the Republic of Uzbekistan is 13%, which is one of the highest in the world.

The aim of the study: to describe the clinical and laboratory features of the course of chronic viral hepatitis B in pregnant women.

Materials and methods of the study:
The study included 98 people with a documented diagnosis of viral hepatitis B, hospitalized in the Regional Infectious Clinical Hospital. The control group consisted of 46 healthy people. The

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research methods included epidemiological, clinical, biochemical, serological, molecular biological , instrumental research methods.

Research Results:

The average age of pregnant women was 28.3±3.4 years. When analyzing women's awareness of the diagnosis of viral hepatitis B before pregnancy, only 19 patients (18.6%) from the entire study group knew about the diagnosis. The data on the assessment of reproductive function indicated an almost equal ratio of primiparous and multiparous women - 61 (62.2%) and 37 (37.8%), respectively. Every second patient had a complicated gynecological history, the most common were: inflammatory diseases of the pelvic organs - 25.5% of cases; sexually transmitted infections - 32.6%.

In most cases, the patients in the study group had various complications during pregnancy. The most common complications in the early stages were: threatened miscarriage - 18.4% of cases, early toxicosis - 12 pregnant women (12.2%), anemia of pregnant women - 19 (19.4%) cases. Uncomplicated course of the first half of pregnancy was observed in 48 women (48.9%). The phase of exacerbation of viral hepatitis in the first half of pregnancy was not observed in any patient (Table 1).

Table 1 Frequency of occurrence of the main clinical symptoms and laboratory tests in pregnant women with chronic hepatitis B in the 1st trimester

No.	Sign	Study group (%)	Physiological pregnancy (%)
1	Threat of termination of pregnancy	18.4%	13.0%
2	Early toxicosis	12.2%	10.8%
3	Anemia in pregnancy	19.4%	15.2%

The second half of pregnancy proceeded against the background of threatened miscarriage in 16 (16.3%) patients, anemia was observed in 42.8% (42 women) of cases, moderate preeclampsia was detected in 13 pregnant women (13.2%). Disorders from the mother-placenta-fetus (hemodynamic disorders, intrauterine growth retardation (IUGR)) were diagnosed in 13 pregnant women (13.2%), polyhydramnios - in 7 (7.1%) patients, oligohydramnios - in 6 (6.1%). The diagnosis of " cholestasis " was made in 3 women - 3.1%. In 21 (21.4%) women, the course of the second half of pregnancy proceeded without complications (Table 2).

Table 2 Frequency of complications in pregnant women with chronic hepatitis B in the 2nd and 3rd trimester

No.	Sign	Study group (%)	Physiological pregnancy (%)
1	Threat of termination of pregnancy	16.3%	13.0%
2	Fetal growth retardation	13.2%	2.1%
3	Anemia in pregnancy	42.8%	32.6%
4	Preeclampsia	13.2%	6.5%
5	Polyhydramnios	7.1%	4.3
6	Low water content	6.1%	2.1%
7	Cholestasis	3.1%	-

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Clinical symptoms of chronic hepatitis B in all examined pregnant women in the 2nd and 3rd trimesters were characterized by the presence of intoxication, dyspeptic and icteric syndromes.

The intoxication syndrome was manifested mainly by general weakness, malaise, loss of appetite, pain in the right hypochondrium and epigastrium, nausea, single or repeated vomiting.

A comparative analysis of the frequency of clinical symptoms showed that pain in the right hypochondrium and epigastrium was the most common symptom and was found in both study groups. The pain occurred regardless of food intake and physical activity. It was detected in 58.1% of pregnant women with chronic hepatitis B. (Table 3)

Table 3 Frequency of occurrence of the main clinical symptoms and laboratory tests in pregnant women with chronic hepatitis B in the 2nd and 3rd trimesters

No.	Sign	Study group (%)	Physiological pregnancy (%)
1	Pain in the right hypochondrium and epigastrium	58.1%	17.3%
2	Decreased appetite	12.2%	8.6%
3	General weakness	38.7%	19.5%
4	Nausea	36.7%	30.4%
5	Vomit	31.6%	17.3%
6	Hepatomegaly	18.3 % .	4.3%
7	Yellowness of the skin and sclera	7.1%.	-
8	Darkening of urine color	7.1%.	-
9	Increased total bilirubin levels	7.1%	-
10	Increased ALT levels	9.1%	-
11	Increasing the amount of AST	8.1%	-
12	Increased thymol test	11.2%	-
13	Increased alkaline phosphatase	7.1%	-

We noted changes in the digestive system. Thus, coated tongue and nausea were detected with the same frequency in both groups of patients. Vomiting was observed in pregnant women with CVHB in 31.6% of cases. Hepatomegaly was characterized by uniform compaction and enlargement of the liver parenchyma. The lower edge of the liver protruded from under the costal arch by 1-4 cm. The contours were smoothed, without sharp deformation. The edge was even, smooth, palpation of the liver caused painful sensations. In patients with CVHB, this symptom was observed in 18.3 % .

Jaundice syndrome, clinically manifested by yellowing of the skin and sclera of varying severity and intensity, was recorded in chronic hepatitis B in only 7.1%.

Blood biochemistry revealed the following deviations: the average value of total protein was 64.87±5.2 g/l; increased bilirubin was detected in 7 (7.1%) pregnant women (the maximum value was 58.6 μmol /l); increased ALT was observed in 9 (9.1%) women, reaching a maximum value of 2.8 μmol /h/l (N: up to 0.68 μmol/h/l), AST – in 8 (8.1%) women, up to a maximum of 1.2 μmol /h/l (N: up to 0.45 μmol /h/l); an increase in the thymol test was observed in 11 (11.2%) pregnant women, up to a maximum of 7 U (N: up to 4 U), alkaline phosphatase was increased in 7 (7.1%) people. No changes in the coagulogram parameters were detected in any patient.

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To compare the biochemical screening indicators in patients of the study group with the indicators in physiologically proceeding pregnancies, a group of practically healthy women with an uncomplicated gestational process was recruited.

Conclusion:

The above data give us every reason to classify women with chronic viral hepatitis B as a high-risk group for the possibility of an unfavorable outcome of pregnancy and childbirth for the mother and fetus.

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