

## Features Changes Hemodinamic Liver Easy Preeclampsia

Zaripova D.Ya.

*Bukhara state medical institute*

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**Resume:** Examine the systemic circulation of the liver and its role in the predicting of preeclampsia. We studied 100 pregnant women with mild preeclampsia (II group), and 50 pregnant women with physiological pregnancy control group (I group), 50 pregnant women with severe PE (III group). Comprehensive ultrasound and Doppler blood flow study was performed, ultrasound scanner Sono-scape SSI 5000 (China model) equipped with Convex probe (3.5 MHz) provided with a pulsed Doppler unit and wave function of the DRC. Examined blood flow in arteries and veins of the liver (liv A, liv V, Col V). Blood flow in the same hepatic portal vein and a tendency towards a certain decrease in pregnant women with PE. LMS and R & D in the hepatic artery, these values were increased by 13.3 and 26.4, respectively, in severe PE. Study features of hepatic arterial blood flow with the emergence of hypertension in pregnancy can be a predictor of the development of PE and its progress with the transition to severe.

**Keywords:** Doppler, preeclampsia, liver blood flow.

Relevance. Preeclampsia is a pathology of pregnancy that belongs to the most severe complications for the mother and fetus and is characterized by pronounced disorders of the functions of vital organs and systems [1,5,7]. The dynamic development of the gestational process leads to an increase in the load on the organ, exposes the liver to functional stress, but does not cause pronounced changes in it. At the same time, as pregnancy progresses, the reserve capabilities of the liver are depleted. With the development of PE, it is advisable to pay special attention to the functional state of the liver. It is the changes in the hepatobiliary system that are of leading importance in the pathogenesis of severe forms of preeclampsia [2,4].

Most of the parameters characterizing the functional state of the liver change even at the preclinical stage, thus making it possible to predict the development of liver failure. The poor clinical picture of liver pathology observed in mild preeclampsia indicates the need to identify reliable laboratory criteria and assess the severity of its lesion. To date, the main criteria for the clinical diagnosis of hepatic cell insufficiency are the biochemical parameters of blood serum [6,7,8,10]. To assess the permeability of the plasmolemma and damage to hepatocytes, the level of enzymatic activity of alanine aminotransferase, the cytosolic enzyme of hepatocytes, as well as the enzymes aspartate aminotransferase, alkaline transferase, lactate dehydrogenase is used. Based on a comprehensive study of morphological and functional changes in the liver condition, it is possible to get an idea of the changes in the hepatobiliary system in women with PE, which will solve some controversial issues, predict its course and possible complications [3,6,7,9].

The purpose of the study: To study the systemic blood flow of the liver and its role in predicting preeclampsia.

### Materials and methods of research

We studied 100 pregnant women with mild preeclampsia (Group I), and 50 pregnant women with a physiological course of pregnancy in the control group (group I), 50 pregnant women with severe PE (Group III). All the observed patients underwent a full clinical examination in a maternity hospital and a branch of the Republican Scientific Center for Emergency Emergency Care of the Bukhara region. The age of the women in the study groups was almost identical from 17 to 38 years old, the average age was  $22.3 \pm 2.1$  years. To conduct a clinical and static analysis and during the examination of pregnant women in the study group, we also took into account anamnestic data, concomitant extragenital and gynecological diseases, the onset and nature of the course of menstrual, sexual and reproductive function.

The analysis of the age of sexual initiation showed the presence of an earlier sexual debut in patients with preeclampsia compared with women in the control group of 17 (16-31) and 20 (18-24) years, the average age of sexual initiation in the group with mild PE was 24 with individual fluctuations from 28 to 38 years. We paid special attention to the establishment of the timing of PE, the time of its onset, the features of the course, the nature and effectiveness of therapy. All pregnant women underwent clinical and laboratory studies, including clinical and biochemical examinations. Ultrasound and Dopplerometric examination of liver blood flow was performed using a Sono-scape SSI 5000 diagnostic device (China model) equipped with a convexic sensor (3.5 MHz) equipped with a pulsating wave Doppler unit and a CDK function. The blood flow in the arteries and veins of the liver (Liver A, Liver B, Vor B) was studied

### The results and their discussion.

Considering that the basis of PE is generalized vascular spasm, arterial hypertension, increased heart rate mainly due to arteriolar spasm, it must be assumed that these changes in the homeostasis system clearly develop simultaneously with the development of PE in terms earlier than 28-32 weeks. Generalized vascular spasm is not limited to changes in the central nervous system. It must be assumed that under its influence, changes occur in the blood circulation of the uterus, liver and kidneys of the mother and the fetoplacental system, which cannot but affect the nature of the course of pregnancy and fetal development. The table below shows the values of the Doppler study of renal, hepatic and fetoplacental blood flow in pregnant women with mild PE.

As can be seen from the table above, what was interesting, in our opinion, were the changes in the hepatic artery in women with PE, in whom changes in the hepatic artery in women with preeclampsia in whom SDR statistically significantly exceeded that in the control group by almost 9%, which affected an equally significant increase in hepatic artery IR relative to the control data by 18%.

The blood flow in the hepatic and portal veins only showed a tendency to a slight decrease in pregnant women with PE.

As for the ratio of hepatic arterial blood flow to that in the portal vein, according to our data, a statistically significant deterioration in arterial blood flow in the liver led only to a slight tendency to decrease blood flow in the hepatic and portal veins.

From the data given in the table, it is easy to see that with the progression of PE, vascular spasm continues to increase, covering mainly the arterial segment. SDR and IR in the hepatic artery, then these values increased by 13.3 and 26.4, respectively, in severe PE.

Conclusion. Summarizing the data obtained from instrumental studies of pregnant women with PE, the following can be noted: generalized vascular spasm, mainly related to the high-pressure circulation system (resistive vessels), leads to a deterioration in blood flow of almost all organs and systems of the mother, including the liver. Thus, the study of the peculiarities of arterial blood flow of the liver with the onset of hypertension during pregnancy can become a prognostic criterion for the development of PE and its progress with the transition to severe forms.

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