

MANAGEMENT OF PREGNANT WOMEN WITH SEVERE UTERO-FETUS-PLACENTAL DISTURBANCES

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Relevance.

Fetoplacental insufficiency in presence of arterial hypertension (AH) is the most common disease complicating the course of pregnancy, as well as one of the most pressing problems of medical science and practice. In recent years, pregnancy-related complications, including hypertensive disorders, have increased in all economically developed countries, which is reflected in the latest publications.

The disease is characterized by a severe course, a decrease in the quality of life and an increase in perinatal morbidity and mortality. According to the World Health Organization, the problem of reproductive health is in the center of attention of scientists around the world. Fetoplacental insufficiency and fetal growth restriction syndrome (FGR) in presence of hypertensive disorders is complicated in 20% of cases of pregnancy and ranks 2-3 in the structure of perinatal morbidity and mortality.

The purpose of the study.

To optimize obstetric management tactics of pregnant women with chronic arterial hypertension, depending on the condition of fetal shunts.

Materials and methods of the research.

We studied 120 pregnant women with chronic arterial hypertension (CAH) with impaired uteroplacental-fetal blood flow (IUPFBF) of degree 3. 120 pregnant women with CAH were divided into 2 groups:

Group I consisted of $n=73$ pregnant women with zero blood flow in the umbilical artery with CAH (main group) whose pregnancy was prolonged;

Group II included $n=47$ pregnant women with zero blood flow, and CAH who gave childbirth without pregnancy prolongation (comparison group).

Results and discussions.

All patients of the main group were taken under observation at 25-28 weeks of gestation and were observed in dynamics until delivery, respectively, pregnant women at 25-28 weeks or more were also included in the comparison group.

In the analysis of patients in the observation group during predelivery hospitalization, a high frequency of IUPFBF was revealed already at the ambulatory stage. Disorders of UPFBF of degree 3 were recorded in all examined pregnant women, which was an indication for hospitalization.

In the prospective study in both groups, pregnancy was complicated by disorders of UPFBF. Fetal growth restriction syndrome (FGR) is one of the signs of intrauterine fetal distress, which is the main manifestation of IUPFBF in

presence of hypertensive disorders. Dopplerometry of the umbilical artery showed the results of zero blood flow. In our observations, FGR of degree 1 and FGR of degree 2 were detected in 6.4%, 2.1% of women respectively in the comparison group and in the main group, 6.8% and 2.7% of women respectively ($p < 0.001$).

During the initial examination, type 1 of ductus venous curve was detected in 54 (74%) women, this is the norm without changes in the visual graph of the normative indicators of the pulsation index (PI) and resistance index (IR) according to the gestational age within the 95th percentile for this period $PI = 0.21 - 1.35$, $IR = 0.50 - 0.70$., the dynamic Doppler study of UPFBF and ductus venous was performed every 7 days in these women, after changing to type 2 of ductus venous curve, the study was performed every 3 days. In our study, in the patient with type 1 of circulatory disorder, pregnancy was extended from 14 ± 4.1 days.

The 2nd type of ductus venous curve was revealed in 15 women (20.5%). This is with a change in the visual graph of the spectrogram with an increase in pulsation and pathological indicators (PI, IR) above the 95th percentile for a given gestational age, these women underwent the Doppler study of the UPFBF every 3 days and assessed the blood flow in the ductus venous. In our study with type 2 of circulatory disorders, pregnancy was extended from 5 ± 2.5 days.

During the initial examination in 4 women (5.5%), type 3 of the EP curve was revealed, and therefore all of them gave childbirth within 24 hours. Type 3 of the curve is severe pathological changes in the spectrogram - reverse or zero diastolic blood flow of the pulse wave and pathological pulsation index above 95 percentile for a given gestational age.

The diagram shows that at 28 weeks of gestation in the main group childbirth was delivered (5.5%), the largest number of deliveries took place at 31, 32 and 33 weeks of gestation, in the comparison group 22%, 37% and 8.2% of cases respectively. At 34 weeks of gestation, 3 women (4.1%) gave childbirth. According to fetal dopplerometry, it was possible to prolong pregnancy up to 35 weeks only in 2.7% of cases, respectively, this significantly increases the chance of survival of newborns.

The condition of the ductus venous had the appearance of types 1 and 2, which served as one of the indicators for the prolongation of pregnancy in the main study group, which is consistent with the literature data. Thus, the sensitivity (85%) and specificity (56%) of the ductus venous test to confirm fetal hypoxia affecting pregnancy outcome was confirmed by our study data.

To identify the functional state of the fetus, a study was carried out in both groups by the method of cardiotocography with the determination of the Fisher index and the evaluation of the cardiotocogram graph. The data obtained indicate that in both groups there was a disorder of the state of the fetus requiring CTG monitoring in dynamics. The results of CTG were considered strictly individually only in combination with clinical data, as well as with the results of other studies, such as Doppler utero-fetal complex. The above conditions were observed in the first group and in the second group, and this was a marker for daily monitoring and for early delivery due to the lack of improvement in dynamics.

The indicators of the Fisher criterion are different in both groups. If the Fisher criterion was below 5 points, CTG was performed daily, deterioration in dynamics was detected on average in 89% of patients within 3 days, which suggests that the observation interval can be extended to 3 days without additional research.

An analysis of the outcomes of childbirth for the fetus showed that in pregnant women of the main group, 64.4% of children were born with an Apgar score of 6-7 points, 13.3% of cases with a score of 8-10 points and 6.8% of cases with a score of 4-5 points, while in the comparison group, 14.9% of women had an Apgar score of 8-10 points, 57.4% of women had 6-7 points and 21.3% of women had 4-5 points. Also in the groups of women, antenatal fetal death occurred in the main group in 6.84% of cases and in the comparison group in 6.3% of cases, which was statistically unreliable. The results of CTG were considered strictly individually only in combination with clinical data, as well as with the results of other studies, such as Doppler utero-fetal complex.

Indications for early delivery in the first group were set in the first 3 days in 28 pregnant women, during the next 2 days in 14 pregnant women, the indications were mainly the progression of hypertensive conditions in (28.5%), the progression of IUPFBF in (21.3%) and the unconvincing state of the fetus in (18.9%) cases, as well as other obstetric indications that did not depend on hypertensive conditions.

Conclusions.

Thus, 3 types of ductus venous disorders in pregnant women with chronic arterial hypertension are described:

Type 1 norm – without changes in the visual graph of the normative indicators of the pulsation index (PI) and resistance index (IR) according to the gestational age within the 95th percentile for this period $PI=0.21-1.35$, $IR 0.50-0.70$. In our study, in the patient with type 1 of circulatory disorder, pregnancy was extended from 14 ± 4.1 days in 54 pregnant women (74%).

Type 2. With a change in the visual graph of the spectrogram with an increase in pulsation and pathological indicators (PI, IR) above the 95th percentile for a given gestational age. In our study with type 2 of circulatory disorders, pregnancy was extended from 5 ± 2.5 days in 15 women (20.5%).

Type 3 - severe pathological changes in the spectrogram - reverse or zero diastolic blood flow of the pulse wave and pathological pulsation index above 95 percentile for a given gestational age. In our study, with 3 types of circulatory disorders, pregnancy was prolonged by no more than 1 day in women 14 (5.5%).

- Studies have shown that the reduction of the Fisher criterion to 5 points with the appearance of pathological abnormalities of cardiotocography has a sensitivity of 84% and a specificity of 49% for early delivery in CAH.

- The study of blood flow in the ductus venous of the fetus made it possible to assess the hemodynamics of the fetus in CAH with a sensitivity of 85% and a specificity of 56%, which allows controlling the reserve capacity of the fetus and timely diagnosing threats to fetal conditions.