World Bulletin of Public Health (WBPH)
Available Online at: https://www.scholarexpress.net
Volume-12, July 2022
ISSN: 2749-3644

DIAGNOSIS OF CHANGES IN THE HEMODYNAMICS OF THE UTERUS AND PLACENTA WITH INTRAUTERINE INFECTION

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Article history:

Received: May 14th 2022
Accepted: June 14th 2022
Published: July 26th 2022

Abstract:

Intrauterine infection of the fetus is an antenatal risk, the absence of clear clinical signs makes it impossible to diagnose this perinatal pathology without modern clinical and laboratory diagnostic methods.

Keywords: Fetoplacental insufficiency, intrauterine infection of the fetus, dopplerography, cardiotocography.

In obstetrics and perinatology, intrauterine infection of the fetus is considered a high-risk factor, and the timing of pregnancy causes an increase in the frequency of complications, of which the risk of miscarriage is 76.3%, fetal malformations - 9.6%, premature birth - 23.1. %, pathology of amniotic fluid - 49.8%, fetoplacental insufficiency 79.1%. [5,8,9]

Fetoplacental insufficiency, which develops as a result of hemodynamic disorders of the uterus, placenta and fetal system during intrauterine infection of the fetus, has a multifactorial etiology, while the growth and development of the fetus is impaired due to adaptive homeostatic reactions and morphofunctional changes in the fetoplacental system.

Modern methods of diagnostics for the purpose of diagnosing intrauterine infection of the fetus, complex clinical and laboratory examination methods are carried out in stages in pregnant women and newborns.

Methods of direct examination of the fetus for intrauterine infections amniocentesis or cordocentesis are used to determine the level of specific antibodies in the blood. Indirect diagnostic methods include taking smears from the cervical canal, urethra and vagina for bacteriological and bacterioscopic studies in order to study the type of pathogen, as well as serological methods to determine the level of specific antibodies in the blood. [1, 10,11]

According to Kan N.E. (2014), the diagnosis of intrauterine infection of the fetus mainly includes clinical and laboratory diagnostic methods. Clinical and laboratory research methods are divided into two groups: direct methods are used to isolate and study microorganisms from biological fluids and tissues, and indirect methods are used to determine specific immune responses to allergens and antigens that correspond to the nature of the infection. [3]

Assessment of the condition of the fetus and fetoplacental complex is carried out on the basis of cardiomonitoring observations. Among them, ultrasonic fetometry, dopplerometry, macro- and micro-studies are carried out in pregnant women with a high risk of internal infection of the fetus.

In order to diagnose fetoplacental insufficiency, which develops as a result of hemodynamic disorders of the uterus, placenta and fetal system during intrauterine infection of the fetus, echographic and functional methods for assessing the condition of the fetus (cardiotocography, cardiointervalography, dopplerometry) are now widely used.

The method of cardiotocography is widely used in modern obstetric practice. Cardiotocography is a method of functional assessment of the state of the fetus, recording the heart rate of the fetus and the contractile activity of the uterus. [7,9]

Ultrasound diagnostics and dopplerometry are the leading methods for diagnosing hemodynamic disorders of the fetoplacental complex. [4,13,15] Among the methods of ultrasound diagnostics, Doppler is the most important in the study of the maternal uterus, fetal system, blood vessels and blood flow. [5,9,14] Circulatory disorders in the uterine arteries are characterized by a decrease in the diastolic component of the blood flow velocity curve. Circulatory disorders in the umbilical artery are also represented by a decrease in the diastolic component, as in the uterine artery. Negative values of the diastolic component of the blood flow of the umbilical artery in the fetoplacental system are considered a critical state of blood flow and represent decompensation of fetoplacental insufficiency. [12,13,16]

According to many researchers, for the diagnosis of fetoplacental insufficiency, the Doppler method is important to check the blood flow of the uterus and umbilical artery in the II and III trimesters of pregnancy (20-24 weeks). [9,15]

Currently, the Doppler method is considered highly informative in order to assess blood circulation in the fetoplacental system. Using this method, the speed of

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blood movement and the ratio of blood flow rates in different phases of the cardiac cycle are determined. According to the results of this indicator, the pulsation index, the resistance index and the systolic-diastolic ratio are recorded, where the increase in the resistance of the peripheral circulation is important. The blood circulation in the uterine arteries, spiral arteries, umbilical artery and its terminal section and fetal aorta are also determined. [13,15]

The diagnostic method of Doppler was discovered in 1842 by Christian Johann Doppler, a professor of mathematics and geometry. Since the mid-80s of the 20th century, the Doppler method has been used in obstetrics. During pregnancy, methods of pulsed, color and power Doppler studies are widely used for scanning [15,16].

Using the Doppler method, the fetoplacental system consists of measuring the resistance indices of the paired uterine artery and the umbilical artery to assess blood flow. Changes in blood flow in the umbilical artery indicate violations of the hemodynamics of the fetal part of the fetoplacental complex, and changes in hemodynamics in the uterine artery indicate a violation of blood circulation in the uterine part of the complex.[4,7]

The classification of maternal-placental-fetal circulation disorders includes the following levels: [7,8,11]

I. IA degree - violation of uteroplacental blood flow without changes in fetoplacental blood flow.
II. IB degree - a violation of the fetal-placental blood flow without changes in the utero-placental blood flow.
III. II degree - uterus - placenta - fetal blood flow is impaired, but no critical condition was observed.
IV. III degree - a critical violation of the utero-placental-fetal circulation.

According to Doppler data, 21.9% of uteroplacental-fetal circulation disorders, 39.1% of fetal-placental hemodynamic disorders and 35.6% of uteroplacental-fetal hemodynamic disorders are observed [10,11].

In subsequent years, clinical and laboratory studies used the hormonal and protein synthesis function of the fetoplacental complex (placental lactogen, progesterone, estriol, cortisol, α-fetoprotein, SPI, PPI2, etc.). [1,2,5]

Histological diagnostic signs of intrauterine infection (chorionic or placental biopsy) are focal maturation of placental villi, density of intervillous spaces, polymorphic infiltration of fetal membranes, stasis of blood elements in placental vessels, fibrinoid-sclerosed platelets and includes other pathological changes. [9,11]

REFERENCES:

1. Буданов П.В., Стрижаков А.Н. Этиология, патогенез, диагностика и лечение внутриутробной инфекции // Вопросы гинекологии, акушерства и перинатологии. – М., 2010. – Т. 9. №3. – С.61-71
2. Бурлев В.А. Зайдиева З.С. Тютюнник В.Л. Клинико – диагностическое определение фактора роста плаценты у беременных с плацентарной недостаточностью. // Пробл репрод. 2009. Том 7. С. 31-34
3. Кан. Н.Е. Орджоникидзе В.Н. Современные представления о внутриутробной инфекции. Акуш и гин. 2014. 6. 3-5.
4. Каримова А.Х. Нажмутдинова Д.К. Значение допплерометрического исследования маточно- плодовоплацентарного кровообращения в оценке внутриутробного состояния плода. // Патология. 2002. С. 3-
5. Кривчик Г.В. Диагностика и прогнозирование внутриутробной инфекции современные возможности и перспективы. Акуш и гин. 2018. 10-12.
6. Коколина В.Ф., Картелищев а.В., Васильева О.а. Фетоплацентарная недостаточность: руководство для врачей. – М.: иД МеДПРаКТиКа – М., 2006. – 224 с.
7. Макаров О.В. Бахарева И.И Ганковская Л.В. Идрисова Л.С. Современные представления о диагностике внутриутробной инфекции. Рос вестн акуш- гин. 2016. 11-15.
8. Нисевич Л.Л Талалаев А.Г Каск Л.Н Внутриутробная инфекция мать- плацента – плод. // Детские инфекции. 2008. С. 9-13.
9. Сидирова И.С. Макаров И.О. Матвиенко Н.А. Внутриутобная инфекция диагностика профилактика и лечение. Пособие для врачей женских консультаций. МЕДпресс-информ 2016. 31
10. Серов В.Н., Тютюнник В.Л., Зубков В.В., Зайдиева З.С. Перинатальные исходы у беременных с инфекционными заболеваниями и плацентарной недостаточностью // Акуш. и гинек. – 2002. – № 3. – С. 16–21.
11. Стрижаков А.Н., Тимохина Т.Ф., Баев О.Р Фетоплацентарная недостаточность: патогенез, диагностика, лечение // Вопросы гинекологии, акушерства и перинатологии. – 2003. – № 2. – С. 2-11
12. Русакова Л.А. Современные подходы к диагностике внутриутробного инфицирования плода. Вести РГМУ 2011. 161.

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13. Юдина Е.В. Допплерография: время подвести итоги // Пренатальная диагностика. – 2002. – № 1(3). –С. 171-179