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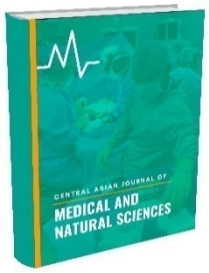

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Outcomes of Pregnancy and Labor in Rhesus-Conflict Pregnancy

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Abstract: About 15% of women have Rh-negative blood, most of them are planning to have children with Rh positive men. During pregnancy, situations sometimes arise when small portions of fetal blood enter the mother's blood. If the mother also has an Rh antigen (Rh-positive, like the baby), her immune system will not react in any way to such an invasion. If the mother is Rh negative, then the Rh antigen on the child's erythrocytes is a foreign agent for her. In this case, the mother's immune system reacts in a special way - her body begins to produce antibodies that recognize the Rh antigen and destroy the red blood cells on which it is attached. These antibodies act not only inside the mother's body, through the placenta they penetrate into the circulatory system of the fetus and destroy its erythrocytes. This pathological condition is called Rh-conflict. In order to study the characteristics of the course of pregnancy and childbirth, as well as perinatal outcomes in patients with Rh-conflict pregnancies, a retrospective analysis of 30 birth histories of patients with Rh-sensitization was carried out. It was revealed that the most important risk factor for the development of Rh immunization is the lack of timely specific prophylaxis through the introduction of anti-Rh-immunoglobulin. Prognostically unfavorable in relation to the development of severe forms of Hemolytic disease of the newborn is the early (up to 20 weeks) detection of a high titer of antibodies (1:16 or more) and its increase during pregnancy, as well as the growing and "jumping" nature of the dynamics of the titer of Rh antibodies. The most informative method for diagnosing the severity of Hemolytic disease of the newborn is Doppler blood flow in the fetal middle cerebral artery, which makes it possible to resolve the issue of timely intrauterine blood transfusion of the fetus.

Key words: pregnancy, Rh alloimmunization, fetal hemolytic disease, diagnosis, treatment, prophylaxis.

Introduction

Among the urgent problems of practical obstetrics, one of the most important places is the problem of immunoconflict pregnancy. Starting from the first weeks of pregnancy, complex immunobiological relationships arise between the embryo and the maternal organism, which largely determine the further course of pregnancy, the condition of the mother, and the development of the fetus and newborn. The cause of the development of hemolytic disease of the fetus and newborn is the immunization of the maternal body with fetal erythrocytes containing antigens that are absent in the mother. Most often this refers to the Rh system (95%), less often to the AB0 system and other antigenic factors of erythrocytes. The Rh factor begins to form at 7-8 weeks of gestation and is clearly detected in the fetus at 10-14 weeks. A necessary condition for the development of hemolytic disease of the fetus and newborn is the passage of fetal erythrocytes through the placental barrier into the mother's bloodstream. At the same time, the first hit of fetal erythrocytes containing Rh0 (D) into the mother's bloodstream leads to her sensitization, that is, to the production of antibodies, and the second one can be accompanied by a Rh conflict, that is, an antigen-antibody reaction, which is the basis for the development of Hemolytic disease of the newborn.

In physiological pregnancy, fetal erythrocytes cross the placenta in 3% of women in the first trimester, in 15% of women in the second trimester, in 45% of women in the third trimester of pregnancy. During pregnancy, Rh immunization contributes to the violation of the integrity of the chorionic villi, as a result of which the fetal erythrocytes enter the mother's bloodstream. The intensity of the process of destruction of erythrocytes is judged by the titer of antibodies to erythrocyte antigens, that is, the higher the titer, the more intense the hemolysis of erythrocytes and the more severe the form of Hemolytic disease of the newborn. The problem of Rh-conflict pregnancy, as well as the problem of Hemolytic disease of the newborn, has not only a medical, but also a social aspect: in 87-92% of women with Rh-negative blood who, after the first pregnancy, did not receive anti-Rh-immunoglobulin immunoprophylaxis, subsequent pregnancies ended in repeated losses children and psychological trauma for both parents

Aim of the work: to study the course of pregnancy and childbirth outcomes in women with Rh sensitization.

Materials and methods

We tracked the course of pregnancy, childbirth, outcome for the fetus in the following clinical groups. The first clinical group consisted of 15 pregnant women with Rh-negative blood type without Rh-sensitization. The second clinical group was represented by 15 Rh-negative pregnant women, in whose blood anti-Rh antibodies were determined at a dilution from 1: 4 to 1: 128. In the analysis, special attention was paid to identifying risk factors, including data from a general anamnesis, data from obstetric-gynecological and somatic anamnesis, as well as the results of laboratory and instrumental research methods. All pregnant women underwent general clinical examination, dynamic observation, control of anti-Rhesus, group, antibodies, as well as ultrasound, Doppler, fetal cardiotocography. The volume and timing of corrective therapy, time and methods of delivery have been determined.

Results

Anti-Rh antibodies were not detected in all women of the first clinical group during pregnancy. Of 15 women, 3 (20%) had pregnancy complicated by placental insufficiency (FPI), 3 (20%) - threatened abortion, 8 (53.3%) - anemia, 7 (46.6%) - pyelonephritis, 2 (13.3%) had gestational hypertension. 14 (93.3%) women gave birth on their own at term, 1 (6.67%) delivered at 33–36 weeks, 3 (20%) delivered by caesarean section. All women of the first group had children born without signs of hemolytic disease (HD).

Of 15 women of the second clinical group, primiparous, primiparous were 4 (26.7%), multiparous - 11 (73.3%). These women were not given immunoprophylaxis. In 3 (20%) women in this group in previous births, children were born with signs of hypertension. In women of the second clinical group, the titer of anti-Rh antibodies during pregnancy ranged from 1: 4 to 1: 128. Of 15 women, 2 (13.3%) had self-abortion, 1 (6.67%) had a pregnancy terminated for medical reasons (fetal anomalies), 5 (33.3%) had polyhydramnios, 2 (13, 3%) - placental insufficiency, gestational hypertension developed in 3 (20%) women, anemia - in 9 (60%). In 2 women (13.3%) childbirth was carried out ahead of schedule at 36–37 weeks of gestation. 10 (66.7%) gave birth on their own, 2 (2.0%) women underwent caesarean section. Of the 12 born children, 10 (83.3%) children were healthy, 2 (16.7%) had HD of varying severity.

Conclusion

Unified approaches in organizing monitoring of pregnant women: timely correction, as well as the introduction of new technologies for specific immunoprophylaxis after abortion, first childbirth and during pregnancy made it possible to reduce the percentage of sensitized women for the Rh factor and reduce perinatal morbidity in immunoconflict pregnancy by 6 times. It follows from the above that the provision of specialized care for pregnant women should develop and improve.

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