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FEATURES OF MANAGEMENT OF PREMATURE PREGNANCY COMPLICATED BY PREMATURE RUPTURE OF MEMBRANES

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Abstract: One of the urgent problems of obstetrics and gynecology is premature rupture of amniotic fluid, which in turn leads to early termination of pregnancy in 50-60% of patients [1]. Until now, there are different concepts about the etiology and risk factors of the development of premature rupture of membranes, according to which the main mechanisms of the development of this pathology are intrauterine infection of the fetus, neuroendocrine pathology, and autoimmune processes. mother-placenta-fetal system, various forms of extragenital pathology of the mother, etc. However, it is known that one of the laws in the development of pathological conditions and diseases of various origins is the dynamic change of causal relationships. , after the triggers for the development of pathology, when the typical pathological processes and reactions that ensure the implementation of efferent connections in the development of pathology are introduced [2].

Key words: Prothrombin time, activated partial thromboplastin time (APTT), thrombin time, international normalized ratio (INR), as well as the amount of fibrinogen in blood.

The results of our previous studies showed that premature rupture of amniotic fluid at 22-34 weeks of pregnancy is naturally accompanied by systemic activation of lipid peroxidation processes and excessive accumulation of lipid peroxidation intermediates in the mother's blood and amniotic fluid - diene conjugates and. malondialdehyde, an increase in the Oxystat indicator reflects a general increase in peroxides [3]. The latter determines the probability of development of endothelial dysfunction and changes in the regulation of vascular tone, coagulation potential of blood, microhemodynamic disorders in various organs and tissues, in particular, in the maternal-placental-fetal system. In connection with these data, it is clear that the failure of amniotic membranes during premature rupture of amniotic fluid occurs against the background of oxidative stress, which characterizes the universal destabilization of biomembranes of cells of various morphofunctional organizations, interstitial substances. as the vascular wall.

To date, the pathogenetic relationship between the above metabolic changes, in particular, the systemic activation of lipid peroxidation processes, the deficiency of the blood antioxidant system and the possibility of the development of endothelial dysfunction, blood coagulation disorders and platelet-vascular components of hemostasis. system is not created.

The purpose of this study was to study the nature and mechanisms of blood coagulation potential disorders, to determine their connection with changes in the functional activity of the vascular wall

during premature rupture of membranes (PROM), and to provide a pathogenetic justification. new objective criteria for the possibility of prolonging pregnancy in this pathology against the background of adequate complex therapy.

Materials and research methods

In 2012-2014, 72 patients who were treated at the "Saratov Region Perinatal Center" state health care institution underwent a comprehensive clinical and laboratory examination. The criteria for the inclusion of patients in the study were complications of pregnancy with premature rupture of membranes in the period of 22-34 weeks of pregnancy, the absence of clinical and laboratory signs of increased infection, in particular, fever, tachycardia, leukocytosis. neutrophil shift to the left in peripheral blood.

Exclusion criteria: multiple pregnancy, preeclampsia and severe forms of extragenital pathology (arterial hypertension, diabetes, glomerulonephritis, etc.), the presence of II and III degree fetal growth restriction syndrome in the patient.

The control group consisted of 40 physiologically pregnant women in the same period of pregnancy.

A comprehensive clinical and laboratory examination includes an assessment of the general condition of pregnant women, 3-hour thermometry, monitoring of hemodynamic indicators, the amount and nature of leakage, daily clinical blood tests. At the same time, the microflora of the vagina is checked every 2-3 days, bacteriological cultures are checked for β-hemolytic streptococci, flora and sensitivity to antibiotics, as well as C-reactive protein in the blood. once every 3 days.

For antenatal diagnosis of the condition of the fetus, ultrasound fetometry and placentametry, daily assessment of the amniotic fluid index, as well as Doppler examination of blood flow in the umbilical artery, fetal aorta, uterine arteries and middle cerebral artery were performed every 2-3 days. used. Real-time ultrasound and Doppler measurements of fetal and placental blood flow were performed using a Voluson e8 Expert ultrasound machine; cardiotocography was performed daily using a Sonicaid Team Cape device.

A comparative assessment of a number of clinical and laboratory indicators was conducted in a pregnant woman hospitalized with premature rupture of membranes (before therapy) and after prolongation of pregnancy, during the onset of labor.

The functional activity of the vascular wall was evaluated using a number of traditional indicators - levels of endothelin-1, thrombomodulin, thrombospondin, intercellular adhesion molecules and nitric oxide metabolites in the blood.

The study of the state of the hemostatic system was carried out by determining a number of generally accepted integral indicators: prothrombin time, activated partial thromboplastin time (APTT), thrombin time, international normalized ratio (INR), as well as the amount of fibrinogen in the blood. blood

Clinical and laboratory examination of pregnant women with PROM at the beginning of labor made it possible to determine certain dynamics of the above indicators of endothelial dysfunction and blood clotting potential.

It is known that the thrombogenic activity of the endothelium increased during the indicated observation period, which is evidenced by the increasing level of endothelin-1, thrombospondin and intercellular

adhesion molecules in the blood. At the same time, there was a sharp decrease in the blood level of nitric oxide metabolites and an increase in the amount of thrombomodulin (Table 1).

Increased thrombogenic activity of the vascular wall at the onset of labor after prolonged pregnancy in patients with PROM revealed a pathogenetic connection and a parallel with the development of hypercoagulable changes. The latter is characterized by a decrease in prothrombin and thrombin times, aPTT, a decrease in INR and an increase in the level of fibrinogen in the blood (Table 2).

Summarizing the above, it should be concluded that our comprehensive clinical and laboratory examination of patients with PROM with a gestation period of 22-34 weeks made it possible for the first time to determine the pathogenetic relationship between the primary development of endothelial dysfunction and subsequent disorders. coagulation potential of blood.

Summary

Premature rupture of amniotic fluid at 22-34 weeks of pregnancy is formed against the background of endothelial dysfunction, characterized by a decrease in nitric oxide production and an increase in blood vasoconstrictor thrombogenic substances (endothelin-1, thrombospondin) and intercellular content. adhesion molecules in the absence of changes in coagulation hemostasis.

In case of premature rupture of membranes during 22-34 weeks of pregnancy, the main possibility of prolonging pregnancy for 10-12 days in aseptic conditions and carrying out appropriate complex therapy was determined.

In premature rupture of membranes at 22-34 weeks of pregnancy, the prolongation of pregnancy and the progressive activation of labor induction time are pathogenetically based on the indicators of endothelial dysfunction and coagulation hemostasis monitoring. thrombogenic substances (endothelin-1, thrombospondin and intercellular adhesion molecules), identify a parallel with the clear activation of coagulation hemostasis processes.

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