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БУКОВИНСЬКИЙ ДЕРЖАВНИЙ МЕДИЧНИЙ УНІВЕРСИТЕТ

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Матеріали підсумкової 106-ї науково-практичної конференції з міжнародною участю професорсько-викладацького колективу Буковинського державного медичного університету (м. Чернівці, 03, 05, 10 лютого 2025 р.) – Чернівці: Медуніверситет, 2025. – 450 с. іл.

У збірнику представлені матеріали 106-ї науково-практичної конференції з міжнародною участю професорсько-викладацького колективу Буковинського державного медичного університету (м. Чернівці, 03, 05, 10 лютого 2025 р.) зі стилістикою та орфографією у авторській редакції. Публікації присвячені актуальним проблемам фундаментальної, теоретичної та клінічної медицини.

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THE EFFECT OF SARS-COV-2 ON THE CONDITION OF THE PLACENTA AND THE FETUS DUE TO INFECTION IN THE FIRST TRIMESTER

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Introduction. The body of women during pregnancy undergoes significant changes, which makes them more vulnerable to infectious diseases during pregnancy, since immunological changes during pregnancy increase its sensitivity to both pathogenic and conditionally pathogenic microorganisms. It is believed that pregnant women with COVID-19 are more likely to develop severe complications, but the literature on this issue is controversial, as is the issue of the likelihood of placental and fetal impact. It has been established that the fetus can be directly affected by a viral infection as a result of vertical transmission or indirectly through the impression of the placenta. Other studies indicate that indicators of placental inflammation do not differ between patients with COVID-19 and healthy controls. Thus, the statement regarding the increased risk of complications is debatable, given the increased surveillance and clinical response to disease during pregnancy, which makes the problem relevant and worthy of further research in order to prevent complications.

The aim of the study. To assess the impact of the SARS-CoV-2 virus in a mild and moderate form of the disease when infected before 12 weeks of pregnancy on the subsequent course of pregnancy, in particular the condition of the placenta and fetus.

Material and methods. To achieve the purpose of the study, we formed two groups: I main group (MG) - 28 pregnant women who suffered from COVID-19 infected before 12 weeks of pregnancy, II control group (CG) - 20 healthy pregnant women without having been infected with COVID-19. General clinical and obstetric examination, special research methods - determination of placental hormones (placental lactogen, free estriol), ultrasound of the fetus and placenta, statistical analysis were used for the research.

Results. The presence of the COVID-19 virus in pregnant women is confirmed by the polymerase chain reaction method in nasal swabs or a positive serological test. There was no extragenital pathology in the pregnant women of the main and control groups.

As a result of the work, it was found that 12 pregnant women (42,86 %) had a normal course of pregnancy in MG, and 18 pregnant women (90 %) in CG. To determine the effect on the state of the placenta, placental hormones were determined, in particular, placental lactogen and free estriol in the blood of pregnant women. It was established that in 12 pregnant MG women with a subsequent normal course of pregnancy, the level of placental hormones in the blood did not reliably differ from pregnant CG women, however, in 16 pregnant women (57,14 %) the level of free estriol was significantly reduced - in MG 3,82±0,29 mg/l, in CG 9,25±0,33 mg/l ($p<0.01$), in contrast to placental lactogen, where an unreliable increase was observed - in MG 3,15±0,25 mg/l, in CG 3,05±0,19 mg/l ($p>0,05$).

Subsequently, 14,29 % of pregnant women with a reduced level of free estriol developed fetal growth retardation syndrome. Fetal growth retardation syndrome was not detected in healthy pregnant women CG.

Conclusions. Infection with COVID-19 in the first trimester of pregnancy leads to violations of the hormonal function of the placenta, which is manifested by a decrease in the synthesis of free estriol (3,82±0,29 mg/l ($p<0,01$)) and the development of fetal growth retardation syndrome in 14,29 % ($p <0,05$), which should be taken into account during pregnancy to prevent complications.