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TORCH INFECTIONS IN WOMEN AND THEIR IMPACT ON PREGNANCY COMPLICATIONS

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Objective: The aim of this study is to investigate the course of pregnancy and labor in pregnant women infected with TORCH infections, to determine the impact of these infections on maternal and fetal conditions, and to perform a comparative evaluation with the indicators of healthy pregnant women. In addition, the study seeks to analyze the association between TORCH infections and pregnancy complications such as preeclampsia, preterm delivery, intrauterine growth restriction, intrauterine infection, and perinatal complications, as well as to scientifically substantiate the importance of their prevention and early diagnosis.

Materials and methods: The study was conducted in the Department of Obstetrics and Gynecology of the Multidisciplinary Clinic of Samarkand State Medical University and was based on the clinical and laboratory data of pregnant women who were under observation during 2024–2025. A total of 60 pregnant women were included in the study, of whom 40 had laboratory-confirmed positive results for TORCH infections and constituted the main group, while 20 pregnant women without evidence of TORCH infections and with a physiologically normal course of pregnancy formed the control group. The study results were retrospectively analyzed based on delivery medical records, outpatient follow-up charts, laboratory test protocols, and conclusions of ultrasound examinations. Serological methods were used to detect TORCH complex infections, primarily relying on the determination of IgM and IgG antibodies; in selected cases, data from molecular genetic testing were also taken into account. The pregnant women in the main group were subdivided into two subgroups depending on the time of TORCH infection detection and the gestational age: the first subgroup included 20 women in whom TORCH infection was identified between 22 and 30 weeks of gestation, and the second subgroup included 20 women in whom TORCH infection was detected after 30 weeks of gestation. The mean age of the women participating in the study was 25 ± 1.4 years. The obtained data were comparatively analyzed between the main and control groups, and the degree of the adverse effects of TORCH infections on the course of pregnancy and labor was scientifically assessed.

Results: In the analyzed pregnant women, against the background of TORCH infections, the structure of extragenital pathologies was mainly characterized by functional suppression of the immune system, an increased tendency to chronic inflammatory processes, and a high prevalence of anemia. In the main group, the presence of TORCH infections had a significant impact on the course of pregnancy: signs of placental insufficiency were detected in 42.5% of cases, whereas this indicator was recorded at a much lower level in the control group. Among the women included in the study, 33 (55.0%) were primiparous and 27 (45.0%) were multiparous. In pregnant women of the main group, the course of pregnancy was complicated by early toxicosis in 22.5% of cases, threatened miscarriage in 47.5%, anemia in 62.5%, and infections of the genitourinary system in 70.0% of cases. The analysis of anamnestic data showed that among close relatives of the examined women, cardiovascular diseases were registered in 18.0% of

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cases, urinary tract pathologies in 16.5%, and endocrine disorders in 14.0%. In addition, a high frequency of complicated courses of pregnancy and labor was identified in the obstetric history of close female relatives, indicating the significance of genetic and immunological predisposition factors. In 36.0% of pregnant women in the main group, a typical complex of clinical and laboratory signs characteristic of TORCH infections was identified; in 52.5%, the infection manifested as a combination of two different clinical presentations, while in 11.5% of cases the disease had a subclinical course, being detected only by laboratory parameters. Despite the therapeutic measures undertaken, insufficient restoration of placental blood circulation persisted in 38.0% of women in the first subgroup and in 24.0% of women in the second subgroup. The analysis of the labor process showed that in 12 patients (20.0%) delivery was completed by surgical intervention, mainly due to fetal hypoxia, severe forms of placental insufficiency, and infectious complications. It was established that the risk of perinatal complications in pregnant women infected with TORCH infections was significantly higher compared to the control group, which scientifically confirms the adverse impact of these infections on the course of pregnancy and labor outcomes.

Conclusions: The analysis of the medical history of pregnant women infected with TORCH infections demonstrated that these infections represent an important etiopathogenetic factor in the development of pregnancy complications. In particular, suppression of immune system function, the presence of chronic inflammatory foci, anemia, genitourinary system infections, and a history of complicated previous pregnancies create a background for a more severe course of pregnancy in the presence of TORCH infections. According to the study results, in 38% of pregnant women in the first subgroup of the main group and in 24% of women in the second subgroup, signs of placental insufficiency and fetal hypoxia persisted despite ongoing treatment, confirming the deep and persistent negative impact of TORCH infections on the gestational process. Furthermore, an increased complexity of the labor process, a higher need for surgical interventions, and an elevated risk of perinatal complications were identified in the presence of TORCH infections. These findings scientifically substantiate that early detection of TORCH infections before pregnancy and during the early stages of gestation, along with timely preventive and therapeutic measures, is of crucial importance for preserving maternal and fetal health.