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THE IMPORTANCE OF TORCH INFECTION IN PATIENTS OF FERTILE AGE

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Abstract
TORCH infections (Toxoplasma gondii, other infections [including syphilis, varicella zoster virus, parvovirus B19], rubella, cytomegalovirus, and herpes simplex virus) are a group of pathogens capable of causing serious complications when infected during pregnancy. In patients of fertile age, especially women, timely diagnosis and prevention of TORCH infections are crucial to prevent intrauterine transmission and the development of birth defects in the fetus. This article examines the epidemiological features of TORCH infections, the mechanisms of their impact on reproductive health, modern approaches to screening and treatment, as well as the importance of an interdisciplinary approach to the management of patients planning pregnancy. The emphasis is placed on the need to include screening for TORCH infection in pre-pregnancy training and educational programs for people of reproductive age.

Keywords: TORCH infections, fertile age, reproductive health, congenital infections, pregnancy planning, prevention, screening, perinatal complications.

Introduction

TORCH infections are a group of infectious diseases that pose a particular risk to pregnant women and their unborn children. TORCH abbreviation: Toxoplasmosis (toxoplasmosis), Other (other infections such as syphilis, chickenpox, Parvovirus B19, listeriosis), Rubella (rubella), Cytomegalovirus (cytomegalovirus), Herpes simplex virus (herpes simplex virus)[2, 5, 9].

These infections usually do not cause serious problems in healthy people, but can cause serious complications in the fetus when infected during pregnancy, including birth defects, developmental delays, neurological disorders, and even death. It should be noted that not all infections in the "Other" group are equally dangerous, and the risk to the fetus can be different. [1,6,8]. Timely diagnosis and treatment of TORCH infections during pregnancy is essential to minimize the risk of adverse effects on the child's health.

TORCH infections are a group of infectious diseases that pose a special risk to pregnant and newborns. The abbreviation Torch comes from the first letters of Latin names: Toxoplasma, others (other infections), Rubella, Cytomegalovirus, Herpes simplex virus. Toxoplasmosis disease is caused by the parasite toxoplasma gondii. Infection during pregnancy can have serious consequences for the fetus, including damage to the brain, eyes and other organs. Other infections: this group includes zahm, chickenpox, Parvovirus B19, listeriosis, HIV, etc. [3, 4, 10].

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Each of these infections can pose a risk to both the pregnant woman and the fetus. Rubella: especially dangerous in the first trimester of pregnancy. It can cause birth defects such as deafness, blindness, heart defects, and mental retardation. Cytomegalovirus infection (CMV): a common infection, often asymptomatic. However, newborns may experience nervous system damage, hearing loss, and other serious problems. Various wounds: genital herpes is at high risk of transmission from mother to child during childbirth. [1, 6, 9].

The purpose of the study. Systematization of modern data on TORCH infections and their impact on reproductive health is also the development of practical recommendations for the management of women planning pregnancy, taking into account the risks associated with these infections.

Materials and methods. The studies were carried out in the Laboratory Department located in the Multidisciplinary Center of the University, which belongs to the Department of clinical laboratory diagnostics and DKTF clinical laboratory diagnostic course SamDTU in women of reproductive age. The study was attended by patients who applied between September 2024 and February 2025. The study involved 90 women planning a pregnancy. The following age groups were involved in the study. 75 of the patients are 25-35 years old and 15 are 35-40 years old. Each patient underwent a comprehensive clinical and laboratory examination. The cytomegalovirus of TORCH infection, Toxoplasma, chlamydia, ureaplasm,rubella, Mycoplasma, herpes, among others, were examined using an immunoferment analyzer. In addition, a general blood and general forehead analysis was carried out in all patients. An analysis of scientific publications, clinical guidelines and protocols for the diagnosis, prevention and treatment of Torch infections was carried out. Special attention is paid to the immunological state of women of pregnancy planning and reproductive age.

Results of the study: 75 of the patients examined (83.3%) were women aged 25-35, and 15 (16.7 %) were women aged 35-45. Acute phase i.e. IgM cytomegalovirus levels in women average 0.5±1.9, Toxoplasma levels 0.49±0.7, chlamydia levels 0.41±1.1, ureaplasm levels 0.6±1.6, rubella levels 0.67±1.5, Mycoplasma levels 0.49±1.7, herpes levels 0.39±1.9. The chronic phase of TORCH infection in women is i.e. IgG cytomegalovirus levels average 1.2±3.1, Toxoplasma levels 0.69±1.7, chlamydia levels 0.91±2.1, ureaplasm levels 1.69±2.6, rubella levels 0.77±1.4, Mycoplasma levels 0.89±2.7, herpes levels 1.9±2.9. But these parameters are not specified in all patients. In general blood analysis, however, the symptoms of various diseases were not identified. Some patients were found to have decreased hemoglobin levels (70±120) and erythrocyte counts (2.9±4.9). EChT levels were found to be high in some patients. Specific recommendations are given in the table below. (Table 1,2,3,4)

Table-1. Percentage ratio of women of reproductive age who participated in the examination

Age	number	Percentage ratio
25-35	75	83.3
35-45	15	16.7
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Table-2. The amount of acute phase i.e. IgM of TORCH infection in women of reproductive age is given in the table below.

Score	25-35 years old	Percentage indicator	35-40 years old	Percentage indicator
Cytomegalovirus	0,5±1,9	64%	0,6±1,7	36%
Toxoplasma	0,49±0,7	33%	0,4±0,8	67%
Xlamidiya	0,41±1,1	26%	0,7±1,1	74%
Ureaplazma	0,6±1,6	68%	0,7±1,9	32%
Rubella	0,67±1,5,	78%	0,87±1,8	12%
Mikoplazma	0,49±1,7	49%	0,59±1,9	51%
Herpes simplex	0,39±1,9	92%	0,9±2,5	8%

Table-3. The amount of chronic phase i.e. IgG of TORCH infection in women of reproductive age is given in the table below.

Score	25-35 years old	Percentage indicator	35-40 years old	Percentage indicator
Cytomegalovirus	1,2±3,1	65%	0,5±1,8	35%
Toxoplasma	0,69±1,7	34%	0,3±0,7	66%
Xlamidiya	0,91±2,1	25%	0,6±1,0	75%
Ureaplazma	1,69±2,6	67%	0,6±1,7	33%
Rubella	0,77±1,4	77%	0,7±1,7	13%
Mikoplazma	0,89±2,7	48%	0,9±1,8	52%
Herpes simplex	1,9±2,9	90%	0,8±2,4	10%

Table-4. The amount of changes in total blood analysis in women of reproductive age is given in the table below.

Score	25-35 years old	35-40 years old
Hemoglobin (g/l)	70±120	80±115
Erythrocyte (10-9 / l	2,9±4,9	2,8±5.2
Hematocrit (%)	30±45	38±49
Color indicator	0,75±1,00	0,70±1,01
MCV (fl	75±89	70±90
MCH (pg	24±33	22±34
LLC (g/l	280±340	273±315
Leukocyte 10 9 / l	4.2±8.8	6.9±9.1
Rod-core neutrophil (%)	2±5	1±6
Segment nucleus neutrophil (%)	42±62	55±70
Lymphocyte (%)	25±50	31±43
Eosinophilus (%)	2±4	1±6
Monocyte (%)	2±10	5±12
Basophile (%)	0±1	0±1
Platelet 10 9 / l	180±370	170±400
EChT mm / h	6±15	12±17

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A review of the results allows us to identify the main risk factors for TORCH infection, assess the effectiveness of various diagnostic and preventive methods, and develop an algorithm for examining women planning pregnancy for timely detection and treatment of these infections.

Conclusion

In conclusion, an integrated approach to examining and advising women during the pregnancy planning stage, taking into account the risk of TORCH infections, is an important factor in reducing perinatal morbidity and mortality. It is important for the health of the mother-child that every woman of reproductive age can detect these infections and take the necessary treatment measures as she regains pregnancy.

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