

**PREVALENCE AND ANALYSIS OF TORCH INFECTIONS AMONG WOMEN OF
REPRODUCTIVE AGE IN THE SAMARKAND REGION**

Yarmuxamedova M.K.

Samarqand State Medical University

Annotation: In the article, the rate of infection among women of reproductive age in Samarkand region is analyzed. The article is intended for information purposes, and no targeted epidemiological study of the prevalence of TORCH infections has been conducted in this region. The data obtained on the main pathogens included in the TORCH infection group are screening data and are used to assess the specific humoral response of the population. Purpose: to study the results of laboratory research on the determination of markers of TORCH-infections. Methods: 13 572 laboratory tests of blood serum samples from 1778 patients were performed. The research was conducted by IFA method. Results of research: Tests were performed in different age groups (0-80years) of male and female sex, assigned profile research on TORCH-infection. Of all the results obtained, the percentage of seropositive was 52,72%. The main component is the addition of IgG to herpes virus, rubella virus and cytomegalovirus, and the presence of antibodies IgG and IgM to toxoplasma infection is minimal. Extracts: Currently, laboratory diagnostics has sufficiently sensitive and highly specific test systems for the detection of TORCH-infection by serological methods, which was confirmed by the minimum percentage of "indeterminate" results for all classes and types of immunoglobulins.

Key words: TORCH-infection, antibody, IFA, test-system.

Introduction. The difficulty of diagnostics, detection and epidemiological control of TORCH infections is that the diseases related to this group are often asymptomatic (1,4,6,7). In some cases, identification based on all the general symptoms creates difficulties in diagnosing these diseases. Therefore, in a number of countries, laboratory tests for TORCH infection are included in mandatory screening protocols to minimize the risk for pregnant women (1,3,5). These tests are prescribed for the initial examination of pregnant women and the detection of pathogens suspected of this infection. The main laboratory indicators are the detection of two classes of specific antibodies, i.e. immunoglobulins of class M and G (IgM and IgG) (1,2,8).

The aim of the study: to analyze the level of TORCH infection among women of reproductive age in the Samarkand region.

Materials and methods of the study. The study material was the outpatient cards of 13,572 patients who applied to the Kamarkand Regional Clinical Infectious Diseases Hospital. Research methods: general blood analysis and ELISA test system. Blood serum samples taken from patients under observation were examined using the ELISA method.

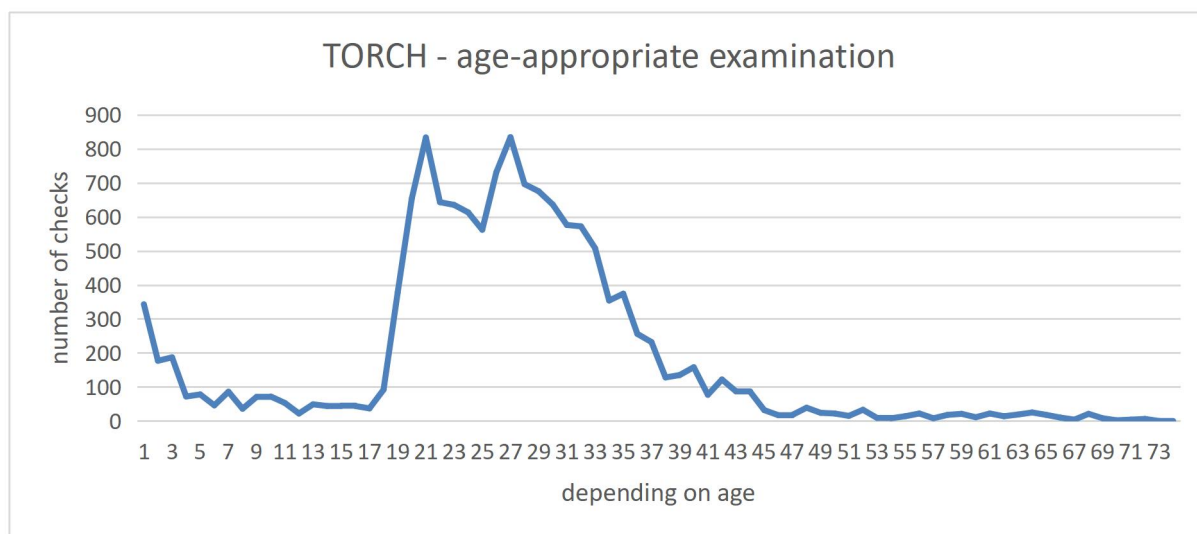
Results of the study: The main objective of the study is to study the results of laboratory tests to determine the laboratory signs of TORCH infection. Laboratory tests were conducted on blood serum samples of 13,572 patients. The laboratory study was conducted using the ELISA method. The studies were conducted on various diseases included in the

TORCH infection. Of the 13,572 outpatients who sought treatment at the Samarkand Regional Clinical Infectious Diseases Hospital, 68.2% were women. 89.9% of them were women of reproductive age.

antibodies to the following main infections included in the TORCH infection:

1. Antibodies to Toxoplasma gondii IgG (Tox IgG).
2. Antibodies to Toxoplasma gondii IgM (Tox IgM).
3. Antibodies to rubella IgG (Rub IgG).
4. Antibodies to rubella IgM (Rub IgM).
5. Antibodies to cytomegalovirus IgG (CMV IgG).
6. Antibodies to cytomegalovirus IgM (CMV IgM).
7. Antibodies to herpes virus 1 and 2 IgG (HSV 1/2 IgG).
8. Antibodies to herpes virus 1 and 2 IgM (HSV 1/2 IgM).
9. Antibodies to herpes virus 1 and 2 IgM (HSV 1/2 IgM)

The majority of women of reproductive age who took part in the study were women aged 18 to 43. A total of 11,553 samples were taken from them and prenatal screening was performed. The remaining samples were made in the age groups from 5 to 17 years and from 44 to 80 years. We can see the age ranges of the patients in the graph below (Figure 1).



1 image. Age of patients undergoing testing for TORCH infection

Among all the results obtained, the percentage of seropositives was 52.72%. The main component was IgG to the herpes virus, rubella and cytomegalovirus. Among women of reproductive age, the presence of IgM and IgG antibodies against toxoplasmosis infection was observed in rare cases. If we turn to scientific literature, this indicator is recorded in most countries of the world (1,9,10). These data indicate a low level of infection in the region and a low risk of intranatal pathology associated with this infection (Table 1).

Table 1.

List of infections that have tested positive in patients tested for TORCH infection

No	TORCH infection	Positive result
1.	CMV IgG (cytomegalovirus – G)	89.36%
2.	CMV IgM (Cytomegalovirus - M)	5.73%
3.	HSV I/II IgG (herpes 1/2-G)	93.21%
4.	HSV I/II IgM (Herpes 1/2-M)	13.97%
5.	Rubella IgG (Rubella - G)	90.26%
6.	Rubella IgM (Rubella -M)	2.20%
7.	ToxoIgG (Toxoplasma-G)	9.04%
8.	ToxoIgM (Toxoplasma-M)	2.88%

The list of infections with a positive result in patients with the TORCH test is led by IgM herpesvirus infection and cytomegalovirus, which is a standard result for most countries in the world (2.5).

TORCH infections are presented in tabular form (table 2).

Table 2.

Distribution of positive results for diseases included in the TORCH group of infections by patient age

No	Diseases related to the TORCH group of infections.	Young patients
1.	The highest percentage of positive IgM are antibodies to herpes virus types 1 and 2 (HSV I/II IgM).	These diseases were identified in all groups of women of reproductive age .
2.	Toxoplasma (Toxo IgM) accounted for the highest percentage.	Toxo IgM was detected in the group of girls under 18 years of age and amounted to 7.27%.
3.	The highest percentage of positive IgM results for rubella virus (Rubella IgM).	IgM to rubella was detected in the 15-17 year age group, which corresponds to the age of vaccination in relation to infection.
4.	The percentage of rubella IgG in the group of schoolchildren is 88.24%. This information indirectly confirms the production of protective antibodies after vaccination. When studying the stable immune response to rubella, the post-vaccination condition was not taken into account, which required IgG antibodies to rubella.	IgG to rubella was detected in schoolchildren aged 15-17. When studying the stable immune response to rubella, the post-vaccination condition requiring IgG antibodies to rubella was not taken into account.
5.	The distribution of the percentage of seropositive IgG results in herpesvirus	IgG to the herpes virus was observed

	infection shows a persistent humoral response in children over 14 years of age.	among individuals aged 15-35 years.
6.	Positive results of IgM against cytomegalovirus (SMV IgM) in all age groups are the same and do not exceed 6%.	

Table 3

Frequency distribution of diseases related to the TORCH group of infections in women of reproductive age

No	Diseases related to the TORCH group of infections.	Frequency of meetings
1.	With MVIGM	91.61%
2.	With MVIGG	5.75%
3.	VPGVg	96.77%
4.	HPV / IIIgM	14.13%
5.	Rubella IgG	92.58%
6.	Rubella IgM	1.78%
7.	ToxoIgG	9.55%
8.	ToxoIgM	2.61%

Among TORCH infections, the herpes virus occupies an important place. Rubella, cytomegalovirus and toxoplasmosis viruses are found in the following places (Table 3).

Laboratory diagnostics of TORCH infections expands the understanding of the pathogenesis of infection and helps prevent infectious diseases. Early diagnostics of infections related to the TORCH group of infections reduces the risk of epidemics.

CONCLUSION:

1. Currently, among women of reproductive age, the infection of the genital tract can be determined by serological methods and has very specific test systems, which is confirmed by the minimal percentage of indeterminate results for all immunoglobulins.
2. The minimum list of tests required for screening the TORCH profile in women of reproductive age should include two classes of TORCH antibodies: IgM and Ig G.
3. This region has been confirmed to be successful in spreading *Toxoplasma gondii* among women of reproductive age compared to other regions of the world.

References:

1. Никитина Г. Ю. Иванова Л. Р., Зембатова С. Х.Дзуцева Ф. К., Борисенко Ю.В. хомилатор аёлларда токсоплазмозни ташхислаш ва даволаш хусусиятлари. Даволовчишифокор (2011 йилноябр).

2. Эргашева М.Я. Энтеровирусинфекциясининг клиник валаборатордиагностикаси хусусиятлари // Фан ватаълимдаги ютуқлар. – 2020. – №. 1 (55). – П. 114-119.
3. Ярмухамедова Н. А., Эргашева М. Я. Энтеровирус этиологиясининг серозменингитидаги клиник ва лаборатория хусусиятлари // Фан ватаълим масалалари. – 2019. – №. 27 (76). – П. 134-144
4. Рустамова Ш. А., Вафокулова Н. Х. “Самарқанд вилоятида ҳомиладор аёлларда кесарча кесиш амалиёти сабаблари ва янги туғилган чақалоқларда ичак микрофлорасига таъсири” // Biomeditsina va amaliyot jurnali 7 jild, 3 son. 29-36. Toshkent 2022-y.
5. Рустамова Ш.А., Вафокулова Н.Х. Сравнительный анализ проблемы острой кишечной инфекции у детей раннего возраста по годам в Самаркандской области // Тошкент тиббиетакадемияси ахборотномаси. № 5 2021, С. 148-152.
6. Рустамова Ш. А., Вафокулова Н. Х. “Самарқанд вилоятида ҳомиладор аёлларда кесарча кесиш амалиёти сабаблари ва янги туғилган чақалоқларда ичак микрофлорасига таъсири” // Biomeditsina va amaliyot jurnali 7 jild, 3 son. 29-36. Toshkent 2022-y.
7. Ярмухамедова Н. А. и др. Функциональные изменения со стороны сердечно-сосудистой системы у больных с хроническими формами бруцеллеза // Достижения науки и образования. – 2020. – №. 4 (58). – С. 56-60.
8. Ярмухамедова Н.А., Якубова Н.С., Тиркашев О.С., Узакова Г.З., Ачилова М.М. 2020. Функциональные изменения со стороны сердечно-сосудистой системы у больных с хроническими формами бруцеллёза. «Достижения науки и образования» № 4(58).
9. Ярмухамедова Н.А., Рустамова Ш.А., Караматуллаева З.Э., маг. Кандимов О. “Самарқанд вилояти Нурубод тумани бўйича бруцеллёз касаллиги эпидемиологияси аспекти ари нитаҳлили таътиш. // Научно - практический журнал «Проблемы биологии и медицины» г. Самарканд, No1 (99) Самарканд, 2018 год. С. 146-151.
10. Yarmukhamedova N.A., Yakubova N.S., Djuraeva K.S. Polyfocal parameters of patients with chronic brucellosis. // Журнал Биомедицины и практики том 6, No 6 С. 296-305.
11. Ne'matov H.A., Tirkashev O.S. Specific clinical and epidemiological features of scarlet fever // Web of Scientist: International Scientific Research Journal. – 2023. – No. 1 (4). pp. 578–584
12. Orzikulov Azam Orzikulovich, Khaidarov Akbar. Ne'matov H.A. Clinical features of the course of erysipelas of the skin at the present stage // Web of Medicine: Journal of Medicine, Practice and Nursing. – Vol. 2 No. 3 (2024): WOM. pp 95-100
13. Ne'matov H.A., Bhavya Shah. Determination of the incident level of chronic viral hepatitis among the population of Oqdaryo district (Samarkand region) // Web of Medicine: Journal of Medicine, Practice and Nursing. – Vol. 2 No. 5 (2024): WOM pp 16-18
14. Ярмухамедова Н. А. и др. Клиническо-эпидемиологические аспекты нейробруцеллеза по данным областной инфекционной клинической больницы города Самарканда // Вестник науки и образования. – 2020. – №. 18-2 (96). – С. 72-77.
15. Ярмухамедова Н. и др. Клинико-эпидемиологическая характеристика паротитной инфекции у детей и подростков по самаркандской области // Журнал проблемы биологии и медицины. – 2018. – №. 1 (99). – С. 150-153.
16. Ярмухамедова Н. А. и др. Современные аспекты и роль цитокинового статуса проблемы бруцеллеза Резюме // International Scientific and Practical conference «COVID-

19 and other topical infections of Central Asia» June 23-24, 2022, Shymkent. – 2022. – С. 172

17. Якубова Н. С., Джураева К. С. Изменения нервной системы при вич инфекции //Uzbek journal of case reports. – 2023. – Т. 3. – №. 3. – С. 97-100.

18. Yarmukhamedova M. Q., Yakubova N. S., Juraeva K. S. Main modern aspects of neurobrucellosis according to the materials of the regional infectious clinical hospital of Samarkand city //Science and Education. – 2023. – Т. 4. – №. 2. – С. 509-515.