Volume 3, Issue 2, February 2025 ISSN (E): 2938-3765

# DIAGNOSIS OF CONGENITAL CMV IN THE ANTENATAL PERIOD

Daminov F. A.
DSc, Ass. Professor, Head of the Department of Clinical Laboratory Diagnosis with the Course of Clinical Laboratory Diagnostics of PGD;

Djabbarova N. R.
Assistant of the Department of Clinical Laboratory Diagnosis with the Course of Clinical Laboratory Diagnostics of PGD;

Rustamova Sh. S.
Cadet of the Department of Clinical Laboratory Diagnosis with the Course of Clinical Laboratory Diagnostics of PGD; Samarkand State Medical University Samarkand, Uzbekistan

**Abstract**
Antenatal diagnosis of congenital CMV infection is based on the detection of primary CMV infection in a pregnant woman, reactivation of latent or superinfection with a new strain of CMV (B). The standard of examination of a pregnant woman is the determination of specific antibodies of Ig M and Ig G classes, Ig G avidity in serum by enzyme-linked immunosorbent assay (hereinafter referred to as ELISA) or immunochemiluminescence assay (hereinafter referred to as CLIA), performed initially at the diagnosis of pregnancy [19,20,21,22].

**Keywords**: Pregnancy, cytomegalovirus infection, new strain, diagnosis, superinfection, laboratory diagnosis.

## Introduction

Primary CMV infection in a pregnant woman is diagnosed based on the detection of seroconversion (appearance and increase of specific Ig G) by ELISA or CLIA in a dynamic study or detection of specific Ig M in 2 samples (in pregnant women IgM persists up to 5 weeks) and/or in combination with low-avidity (less than 30%) Ig G [15,16,17,18]. Reactivation of latent CMV infection or superinfection with a new strain of CMV is diagnosed when a 4-fold increase in specific Ig G with avidity of more than 60% is detected, regardless of the presence/absence of specific Ig M by ELISA/CHLIA in tests performed in the same laboratory at 4-6 week intervals [1,2,3,23,24,25].

Due to the widespread infection and its asymptomatic course, screening examinations for CMV antibodies are currently performed in all pregnant women registered at the antenatal clinic. In seronegative 16 women with symptoms of primary infection, repeat testing is performed after 3-4 weeks to confirm seroconversion. If laboratory screening/monitoring of pregnant women for CMV infection is not mandatory in the region according to the regulatory document, such screening should be performed for clinical and instrumental indications [4,5,6].



Web of Medicine: Journal of Medicine, Practice and Nursing
webofjournals.com/index.php/5

Clinical indications:
- pregnant women under 20 years of age;
- pregnant women who have had (especially in the first half of pregnancy) an acute respiratory illness with minor catarrhal manifestations, combined with lymphadenopathy, hepatolienal syndrome;
- pregnant women with atypical mononuclear cells in their peripheral blood;
- pregnant women working in organised children's groups (kindergarten, school) and pregnant women whose children attend these groups [12,13,14].

Indications for examination determined by the results of instrumental studies (ultrasound signs of fetal CMVI):
- fetal intrauterine developmental delay;
- cerebral ventriculomegaly;
- microcephaly;
- intracranial calcificates;
- ascites, hydrothorax;
- 'non-immune hydrocele' of the fetus;
- low or high flow;
- hyperechogenicity of the fetal intestine;
- calcificates in the liver.
- thickening and calcifications in the placenta [8,9,10,11]

In the presence of laboratory and clinical-instrumental signs of primary (exacerbation of latent, superinfection) CMV infection, it is recommended to test amniotic fluid obtained by amniocentesis (performed not earlier than 7 weeks from the estimated time of onset of the disease/ exacerbation/superinfection and not earlier than the 21st week of gestation) by PCR or virological method (CMV culture) [4,5,6,7].

Cordocentesis is not recommended because it has no diagnostic advantage over amniocentesis for the diagnosis of congenital CMV infection. If amniocentesis is not possible, etiotropic therapy for CMV infection is recommended (see Prevention of congenital CMV infection). In this case, or if there is no evidence of congenital CMV infection in the initial fetal ultrasound (see above), repeat screening fetal ultrasound examinations are performed every 2-3 weeks [1,2,3,4].

The detection of signs of progression of congenital CMV infection during fetal ultrasound monitoring may be an indication for induced termination of pregnancy for medical reasons before 16 weeks, with mandatory prenatal consultation with an obstetrician-gynaecologist, neonatologist, infectious disease specialist and clinical psychologist [20,21,22,23,24,25].

**References**

1. Abduhakimov B. A. et al. Bolalar va o'smirlarda birlamchi tuberkulyozning o'ziga xos kechish xususiyatlari va klinik-laboratoriya usullari //Ta'lim innovatsiyasi va integratsiyasi. – 2024. – Т. 32. – №. 3. – С. 139-143.
2. Бердиярова Ш. Ш. и др. Клинико-лабораторная диагностика фолиевой кислотодефицитной анемии //TADQIQOTLAR. UZ. – 2024. – Т. 49. – №. 3. – С. 46-53.



Web of Medicine: Journal of Medicine, Practice and Nursing
webofjournals.com/index.php/5

3. Umarova T. A., Kudratova Z. E., Axmadova P. Role of conditionally pathogenic microflora in human life activities //Web of Medicine: Journal of Medicine, Practice and Nursing. – 2024. – Т. 2. – №. 11. – С. 29-32.
4. Muhamadiyeva L. A., Kudratova Z. E., Sirojeddinova S. Pastki nafas yo'llari patologiyasining rivojlanishida atipik mikrofloraning roli va zamonaviy diagnostikasi //Tadqiqotlar. Uz. – 2024. – Т. 37. – №. 3. – С. 135-139.
5. Umarova T. A., Kudratova Z. E., Norboyeva F. Modern aspects of etiology and epidemiology of giardias //Web of Medicine: Journal of Medicine, Practice and Nursing. – 2024. – Т. 2. – №. 11. – С. 25-28.
6. Isomadinova L. K., Daminov F. A. Glomerulonefrit kasalligida sitokinlar ahamiyati //Journal of new century innovations. – 2024. – Т. 49. – №. 2. – С. 117-120.
7. Umarova T. A., Kudratova Z. E., Maxmudova H. Mechanisms of infection by echinococococosis //Web of Medicine: Journal of Medicine, Practice and Nursing. – 2024. – Т. 2. – №. 11. – С. 18-21.
8. Даминов Ф. А., Исомадинова Л. К., Рашидов А. Этиопатогенгетические и клинико-лабораторные особенности сальмонелиоза //TADQIQOTLAR. UZ. – 2024. – Т. 49. – №. 3. – С. 61-67.
9. Umarova T. A., Kudratova Z. E., Baxromova M. Autoimmune diseases: new solutions in modern laboratory diagnostics //International Conference on Modern Science and Scientific Studies. – 2024. – С. 78-81.
10. Бердиярова Ш. Ш. и др. Узловой зоб и его клинико-лабораторная диагностика //TADQIQOTLAR. UZ. – 2024. – Т. 49. – №. 3. – С. 38-45.
11. Umarova T. A., Kudratova Z. E., Muhsinovna R. M. The main purpose of laboratory diagnosis in rheumatic diseases //International Conference on Modern Science and Scientific Studies. – 2024. – С. 82-85.
12. Umarova T. A., Kudratova Z. E., Ruxshona X. Contemporary concepts of chronic pancryatitis //International Conference on Modern Science and Scientific Studies. – 2024. – С. 11-15.
13. Хамидов З. З., Амонова Г. У., Исаев Х. Ж. Некоторые аспекты патоморфологии неспецифических язвенных колитов //Молодежь и медицинская наука в XXI веке. – 2019. – С. 76-76.
14. Umarova T. A., Kudratova Z. E., Muminova G. Instrumental diagnostic studies in chronic pancreatitis //International Conference on Modern Science and Scientific Studies. – 2024. – С. 16-20.
15. Umarova T. A., Kudratova Z. E., Norxujayeva A. Etiopathogenesis and modern laboratory diagnosis of prostatitis //International Conference on Modern Science and Scientific Studies. – 2024. – С. 6-10.
16. Амонова Г. У., Сулаймонова М., Кизи Ж. Пневмопатиянинг ателектатик шаклида чақалоқлар мия структураларидаги ўзгаришларнинг патоморфологияси //Новости образования: исследование в XXI веке. – 2024. – Т. 2. – №. 22. – С. 163-166.
17. Sabirovna I. N., Raykhona K. Clinical and laboratory changes in post-term infants //Web of Medicine: Journal of Medicine, Practice and Nursing. – 2024. – Т. 2. – №. 5. – С. 96-99.

18. Ибрагимова Н. С., Юлаева И. А. Сложности диагностики и лечения внебольничной пневмонии у детей раннего возраста //TADQIQOTLAR. UZ. – 2024. – Т. 39. – №. 1. – С. 58-62.
19. Laboratory diagnosis of torch infection bs Shukurullaevna, TF Uktamovich TADQIQOTLAR. UZ 48 (1), 200-206
20. Амонова Г. У., Исмоилов Ж. М. Реорганизация цитоархитектоники эпителиального пласта бронхов у кроликов с хроническим экспериментальным ларингитом //Молодежь и медицинская наука в XXI веке. – 2017. – С. 51-51.
21. Clinical and laboratory characteristics of renal pathology of pregnancy in the first trimester bs Shukurullayevna, MN Komilzhonovna TADQIQOTLAR. UZ 39 (1), 74-79
22. Umarova T. A., Kudratova Z. E., Maxmudova D. Pathogenesis of bronchial asthma development at the present stage //International Conference on Modern Science and Scientific Studies. – 2024. – С. 21-24.
23. Differential diagnosis of jaundice literature review BS Shukurullaevna Web of Medicine: Journal of Medicine, Practice and Nursing 2 (1), 41-49
24. Эшкабилов Тура Жураевич, Хамидова Фарида Муиновна, Абдуллаев Бахтиёр Саидович, Амонова Гулафзал Узбекбаевна, Исмоилов Жасур Мардонович Патоморфологические изменения легких при идиопатических фиброзирующих альвеолитах // Вопросы науки и образования. 2019. №28 (77).
25. Хамидов З. З., Амонова Г. У., Исаев Х. Ж. Некоторые аспекты патоморфологии неспецифических язвенных колитов //Молодежь и медицинская наука в XXI веке. – 2019. – С. 76-76.



Web of Medicine: Journal of Medicine, Practice and Nursing
webofjournals.com/index.php/5