TORCH INFECTION AND ITS EFFECTS ON THE FETUS

Hakimova Omina
Andijan branch of Kokand University
Scientific mentor: **Sanobar Amanbayeva**

Abstract: *This article is about TORCH infection, its triggers information is available. This disease has long been among the dangerous diseases among many countries. TORCH is a combination of several infections. These pathogens include CMV and cCMV, hepatitis, HIV, and herpes viruses. Every year, many babies and mothers suffer from TORCH infection. This article talks about how to protect against infection and diagnose it. This disease can develop without symptoms in a woman's body for a long time. If a woman is pregnant, the disease begins to manifest itself. It causes serious complications in the child's body. Therefore, every woman must undergo an analysis for TORCH before pregnancy. These analyzes include PCR, blood analysis, viral testing, as well as CT and MRI as additional tests. Among the severe complications of this infection, it is appropriate to include miscarriage, premature birth and inability to conceive again.*

Key words: *TORCH, Syphilis, herpes, AIDS, ZIKA, Toxoplasma gondii, cytomegalovirus (CMV), CCMV, blood analysis, CT, MRI, IgM, IgG, seroprevalence, ELISA test, PCR, IUFD, placenta, fetus.*

INTRODUCTION

STORCH (in English TORCHES or TORCH) is a concept used in the field of gynecology. TORCH infection consists of important groups of microorganisms, which are asymptomatic, asymptomatic and difficult to detect during pregnancy, but can appear in the form of congenital anomalies, oligohydramnios, FGR (fetal growth restriction). This infection causes IUFD (intrauterine fetal growth), infertility (RPL) and stillbirth. The acronym TORCH was coined by immunologist Andre Nahmias [7]. Abbreviation STORCH: S = Syphilis (pathogenic Treponema pallidum), T Toxoplasmosis (pathogenic Toxoplasma gondii), O other example; Parvovirus B19 (pathogenic rubella virus), Varicella-zoster virus (causing chicken pox and shingles), Hepatitis B virus (causing hepatitis B), Hepatitis C virus (causing hepatitis C), HIV (AIDS pathogen), Chlamydia (pathogenic chlamydia), Coxsacke virus, Listeria (pathogen causing hysteresis, Streptococcus agalactiae), Zika virus [17], R = rubella (pathogenic rubella virus), C = Cytomegaly (pathogenic human cytomegalovirus), H = herpes simplex (pathogenic herpes simplex viruses) [24]. Maternal education is high in the Northern Triangle of Central America [16]. As of recent years, maternal education rates in El Salvador, Guatemala, and Honduras were 54, 88, and 129,000 per 100,000 live births, respectively [1]. The United Nations 2030 Agenda for Sustainable Development aims to reduce maternal education, end

preventable deaths among newborns and children under 5 years of age, and combat the spread of infectious diseases [25]. Despite increasing international efforts to reduce the prevalence of congenital anomalies, the Northern Triangle of Central America has not been included in coordinated health agency efforts to reduce these outcomes [3]. WHO eliminated rubella virus and congenital rubella syndrome as diseases in the Americas in 2015. Healthcare-associated TORCH infections in Central America lack vaccines and limited preventive treatment to reduce pregnancy risk. Maternal and neonatal screening programs for TORCH infections vary by country, and their standardization and implementation in low-resource settings pose many challenges. Etiology of TORCH-infections. The primary effect of infection is the introduction of pathogens into the body of the fetus, which the immune system is not ready to deal with. A secondary effect of infection is the activity of toxins produced during the disease. An important feature of TORCH infections is low symptomatic or asymptomatic manifestation, and at this time the infection has a negative effect on the condition of the fetus and the pregnancy process. The mother's risk of harming the fetus with cytomegalovirus and primary infection is about 40%, with toxoplasmosis it is 15-25% in the first half of pregnancy and 60-70% in the second half. Most often, the fetus is infected with rubella in the first three months of pregnancy, the probability of infection is almost 100%. Herpes mainly affects the fetus during childbirth, which always has serious consequences for the newborn. STORCH (in English TORCHES or TORCH) is a concept used in the field of gynecology. TORCH infection consists of important groups of microorganisms, which are asymptomatic, asymptomatic and difficult to detect during pregnancy, but can appear in the form of congenital anomalies, oligohydramnios, FGR (fetal growth restriction). This infection causes IUFD (intrauterine fetal growth), infertility (RPL) and stillbirth. The acronym TORCH was coined by immunologist Andre Nahmias [7]. STORCH abbreviation: S= Syphilis (pathogen Treponema pallidum), T = Toxoplasmosis (pathogen Toxoplasma gondii), 0 = other eg; Parvovirus B19 (pathogenic rubella virus), Varicella-zoster virus (causing chicken pox and shingles), Hepatitis B virus (causing hepatitis B), Hepatitis C virus (causing hepatitis C), HIV (AIDS pathogen), Chlamydia (pathogenic chlamydia), Coxsackie virus, Listeria (hysteriosis Women receive the MMR vaccine against measles (German measles). Herpes simplex virus (HSV) is transmitted from mother to child during vaginal delivery. There are 3 transmission lines of TORCH from mother to child. These are through the placenta, during birth (through the birth canal) and after birth (through breast milk). When examining women with obstetric diseases and seroprevalence for TORCH infections, IgM seropositivity for TORCH ranged from 3.41% to 22.64%, and IgG seropositivity ranged from 19.2% to 70.51%. TORCH seropositive women have regional abnormalities such as heart defects, hydrocephalus, cataracts, and regional rubella syndrome [1]. Prevention and diagnosis, as well as in newborns! provided consensus recommendations for the diagnosis and treatment of CCMV [26]. (HCSP)! Mother's on a larger scale! CMV! infection control in many countries! continues to cause difficulties. If present in maternal serum, CMV

infiltrates the placenta and through it negatively affects various cells in the fetal brain, such as astrocytes and neural stem cells. After infection, these cells help the virus multiply inside the brain, which damages the central nervous system. Hearing loss caused by CMV can be caused by the virus affecting the labyrinths in the inner ear. Effects of CMV on the central nervous system and inner ear cells exacerbate the clinical manifestations of cCMV, which include brain abnormalities, hearing loss, speech impediments, microcephaly, and intrauterine growth restriction! [6]. HERPES simplex virus. Herpes simplex virus (GSV) mainly exists in 2 types and affects the face, mouth and genitals of people [8]. Up to 3% of pregnant women worldwide are infected with this infection. They spread this infection through direct contact with bodily fluids, wounds, or secretions.

TORCH diagnostics. If a premature infant has additional clinical signs such as a rash, heart murmur, or eye defects, it is necessary to test for all pathogens of the TORCH complex. TORCH infections are diagnosed by blood tests, PCR (polymerase chain reaction) and viral tests).PCR tests by detecting the genetic material of the virus in a liquid sample will be held. Samples of saliva, nasal mucus, blood, urine, amniotic fluid, skin rash or wound are taken for testing. Examinations such as computed tomography (CT) or magnetic resonance imaging (MRI) during pregnancy TORCH used to detect complications or side effects. During the blood sample examination, blood is taken from the vein of a pregnant woman and it contains antibodies to infections (IgM and IgG immunoglobulins) is determined. Qualitative analysis can only detect the presence of antibodies, but quantitative analysis is preferable. IgM and IgG of The quantitative ratio allows us to determine the time of infection gives Only IgG The presence of antibodies in the class of women from long-term infections protect the child and the mother from dangerous diseases in the body shows that immunity has been formed. IgM acute infection indicates (primary infection, if IgG is not present, or reinfection, if they are also detected). Absence of IgM and IgG is associated with TORCH infection-possibility of infection with rubella, toxoplasmosis, herpes or cytomegalovirus means there is. There are many for serological diagnosis of these agents. There are sensitive and specific tests. IgM against these infections Complex ELISA tests for antibodies are very effective and self-explanatory is specific[15]. Special for CMV diagnosis of the mother during pregnancy detection of antibodies requires seroconversion. Method of amniosynthesis eight week estimate for fetal CMV diagnosis during pregnancy It is used in cases of maternal infection and after 17 weeks of pregnancy. The main preventive measure is hygiene, because immunoglobulins, antiviral drugs and the effectiveness of vaccines is still debated. Pay particular attention to focuses on the effects of anomalies observed during pregnancy on the fetus. Patients with symptomatic cytomegalovirus infections are treated with ganciclovir and should be treated with valganciclovir. The main reason for this therap is to preserve hearing. Symptomatic regional CMV disease with the involvement of the central nervous system (CNS) in newborns or, failing that, six months of oral valganciclovir (16 mg/kg dose, given orally twice a day) is good within two years of treatment shows the results. Dosage should be adjusted as the child grows [12 Parasitemia

in the body of pregnant women lasts up to 3 weeks and inflammation of the placenta occurs. Mainly the development of the disease in the fetus 15% in the 1st trimester of pregnancy and 45% in the 2nd trimester of pregnancy is The probability of infection of the parasite in the 1st trimester of pregnancy is 10-15% and this is the most dangerous stage. During this period, the fetus miscarriage or stillbirth, development of hydrocephalus, microcephaly, heart andthe possibility of eye damage is high. 2- of pregnancy 30-40% chance of getting a parasite in the first trimester. In this damage to the central nervous system of the fetus - development of epilepsy, congenital chorioretinitis, inflammation of the retina, growth after childbirth and development may be delayed. Parasite infection in the 3rd trimester of pregnancy 60%, but its damage rate is low. Many in this In babies, the disease is mostly hidden and the symptoms are few manifest after months or years. Toxolasmosis in pregnant women serological tests (IgG, IgM), PCR, ultrasound and amniocentesis and tests for IgM in newborns necessary. Prevention because toxoplasmosis poses a great risk to the fetus work should be taken seriously. Pregnant women are strict about hygiene rules should be followed, before pregnancy must be tested for TORCH infection submissions, eating well-cooked meat and dairy products, washing vegetables and fruits and hands regularly is recommended. Cytomegalovirus (CMV) is one of the most common infections in the world, a opportunistic pathogen belonging to the family of herpes viruses. This virus can be transmitted mainly by sexual means, from mother to child during the transfusion of blood and blood products, breastfeeding and kissing, and also during the transplantation of internal organs. If CMV is acquired during the 1st trimester of pregnancy, there is an increased risk of early miscarriage or stillbirth. The incidence of intrauterine CMV infection varies from 0.4 to 2.5%. During pregnancy, the risk of damage to the fetus increases by 40-50% when infected with a primary infection. After the fetus is infected with CMV, microcephaly, periventricular calcifications, epilepsy, damage to the eye and hearing system, retardation of skin and internal organs develop. If a baby is infected with CMV after birth, symptoms include jaundice, enlarged spleen and liver, neurological problems, and impaired vision and hearing. In CMV diagnosis, serological (IgM, IgG), molecular (PCR) and instrumental (UZI, MRI) tests are performed. In addition, amniotic fluid is taken from the fetus and tested for PCR. This test is usually performed after the 22nd week of pregnancy and confirms the possibility of CMV transmission to the fetus with 70-80% accuracy. The main part: TORCH infection belongs to the group of intrauterine infections. This name is derived from the first letter of infections.

Toxoplasmosis - the causative agent of toxoplasmosis is the unicellular protozoan parasite Toxoplasma gondii. Cats are the primary source of toxoplasmosis. Toxoplasma cysts, which fall into the soil with cat feces, spread to the environment through water and wind. As a result, farm animals are harmed through contaminated soil and water. Patients with symptomatic cytomegalovirus infections should be treated with ganciclovir and valganciclovir. The main reason for this therapy is to preserve hearing. Symptomatic In neonates with regional CMV disease, with or without central nervous system (CNS)

involvement, treatment with oral valganciclovir (16 mg/kg dose, orally twice daily) for six months shows good results at two years. As the child grows, the dose should be changed.

Conclusion: In conclusion, we can say that TORCH infections are a group of syphilis, toxoplasmosis, rubella, cytomegalovirus, herpes and other infections that pose a serious threat to the mother and fetus during pregnancy. The most dangerous feature of this infection is that the woman's body shows symptoms after pregnancy, and if it is not diagnosed in time, it can cause birth defects, fetal growth restriction, and even fetal death. These infections mainly affect the nervous system, causing congenital diseases and disabilities. Serological tests, PCR and ultrasound are used for diagnosis. Preventive measures mainly include having a healthy sex life and following hygiene rules. Because many pathogens are mainly sexually transmitted. TORCH-infections are among the diseases that seriously harm the health of mothers and children around the world. In many countries, the lack of a screening system for TORCH infections is a challenge for the health care of mothers and babies. Chlamydia is a sexually transmitted disease caused by the bacterium Chlamydia trachomatis, which can cause serious complications in pregnant women. This infection is transmitted from the mother to the fetus during childbirth, through the placenta, domestically and sexually. The effect of chlamydia on the fetus increases the risk of miscarriage, damage to the placenta, congenital conjunctivitis, pneumonia, otitis, bronchitis can develop. Chlamydia is considered dangerous in pregnancy, and if the diagnosis and treatment are not carried out on time, the child may be born with eye or lung infections. TORCH-infections pose a serious threat to a pregnant woman and fetus. They can cause developmental defects and perinatal death in babies. Therefore, it is very important to diagnose and take precautions during the pregnancy planning stage or during early pregnancy. Today, due to the development of medical technologies, there are opportunities for early detection, treatment and prevention of infections. Pregnant women and medical workers should have sufficient knowledge about these infections, undergo regular examinations and follow preventive measures. Done on time increased diagnostic and preventive measures ensure the birth of a healthy fetus and a healthy baby.

Research: I conducted research in the Central Hospital of Andijan district and found that 35.3% of pregnant women have TORCH infection. Doctors gave more detailed information about TORCH infection. TORCH infections are a group of infections that can be transmitted to the fetus during pregnancy. This group includes toxoplasmosis, other infections (for example, syphilis), measles (rubeola), cytomegalovirus, and herpes simplex. These infections can cause birth defects or other complications in the fetus. Prevention and diagnosis: to prevent TORCH infections it is important to conduct regular medical examinations of pregnant women and, if necessary, conduct laboratory tests.

Treatment: If a TORCH infection is detected, doctors use special treatment methods. For example, in cases where cytomegalovirus infection is detected, antiviral drugs can be used.

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