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## The prevalence of cytomegaloviruses and toxoplasmas in women abortion and first sterility

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**ABSTRACT**— We know that infections with CMV during pregnancy is also one of the most frequent threats and serious for fetuses of pregnant women. Every year in USA about 40.000 pregnant women are affected with CMV during pregnancy. Of the 40,000 women infected approximately 6,000 to 8,000 babies will develop severe damage and permanent neurological from this infection. Another very common effect is even fetal death or neonatal death that occurs in about 10 percent of the fetus or newborn child after an intrauterine infection with CMV, neurological damage includes obstacles in the normal development of the baby, and psychological problem deficit of listening. The degree of susceptibility to CMV during pregnancy is also well established, bearing age among women and children between 40% and 80% will be susceptible (seronegative) to CMV early in pregnancy. The degree of sensitivity in early pregnancy varies by ethnic or racial group with the highest rates occurring among African - American and Hispanic populations (populations that speak Spanish) [2]. In 1999, the Institute of Medicine issued a report on priorities for new vaccines and gave priority to the development of a CMV vaccine [4]. This was based not only on the frequency of neurological diseases, but also in the fact that CMV is the most common cause of hearing loss in 25 percent of all hearing deficit due to an infection born with CMV [5]. Further, CMV is a much more common cause of severe neurological hearing in childhood as it was bacterial meningitis, congenital rubella, or herpes simplex infections of neonatal [4]. Reviews or questions for CMV during pregnancy are important because over 90% of maternal infections with CMV during pregnancy are asymptomatic and may remain asymptomatic even in the fetus. Reviews routine serological tests for CMV pregnant women in Europe has brought many significant advantages for the understanding of CMV infection among pregnant women. Different studies show that between 40% and 60% of pregnant women are sensitive to CMV- States and of these, between 1% to 4% will acquire CMV during pregnancy, and average between 40% and 50% infected women will transmit the virus to the fetus.

The low rate of transmission (35%) occurs when maternal infection is in the first quarter, and as the pregnancy develops, the transmission rate increases to 73 percent for women who get CMV infections in the third quarter [9]. Approximately one third of infants infected in the uterus will have symptoms or develop serious nerve damage [11].

**Keywords** — CMV, pregnancy, abortion, primary sterility, bacterial meningitis, neurological damage, congenital rubella, or herpes simplex infections of neonatal,

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### Introduction

We know that infections with CMV during pregnancy is also one of the most frequent threats and serious for fetuses of pregnant women. Every year in USA about 40.000 pregnant women are affected with CMV during pregnancy. Of the 40,000 women infected approximately 6,000 to 8,000 babies will develop severe damage and permanent neurological from this infection. Another very common effect is even fetal death or neonatal death that occurs in about 10 percent of the fetus or newborn child after an intrauterine infection with CMV, neurological damage includes obstacles in the normal development of the baby, and psychological problem deficit of listening. The degree of susceptibility to CMV during pregnancy is also well established, bearing age among women and children between 40% and 80% will be susceptible (seronegative) to CMV early in pregnancy. The degree of sensitivity in early pregnancy varies by ethnic or racial group with the highest rates

occurring among African - American and Hispanic populations (populations that speak Spanish) [2]. In 1999, the Institute of Medicine issued a report on priorities for new vaccines and gave priority to the development of a CMV vaccine [4]. This was based not only on the frequency of neurological diseases, but also in the fact that CMV is the most common cause of hearing loss in 25 percent of all hearing deficit due to an infection born with CMV [5]. Further, CMV is a much more common cause of severe neurological hearing in childhood as it was bacterial meningitis, congenital rubella, or herpes simplex infections of neonatal [4]. Reviews or questions for CMV during pregnancy are important because over 90% of maternal infections with CMV during pregnancy are asymptomatic and may remain asymptomatic even in the fetus. Reviews routine serological tests for CMV pregnant women in Europe has brought many significant advantages for the understanding of CMV infection among pregnant women. Different studies show that between 40% and 60% of pregnant women are sensitive to CMV- States and of these, between 1% to 4% will acquire CMV during pregnancy, and average between 40% and 50% infected women will transmit the virus to the fetus.

The low rate of transmission (35%) occurs when maternal infection is in the first quarter, and as the pregnancy develops, the transmission rate increases to 73 percent for women who get CMV infections in the third quarter [9]. Approximately one third of infants infected in the uterus will have symptoms or develop serious nerve damage [11].

### **The aim of this study**

The aim of this study is to make an assessment of the impact of frequent infections in cases of abortus in the first quarter and the presentation of primary and secondary sterility Pollog region.

All these factors are analyzed abortus and infertility among women who had spontaneous abortus and those with primary and secondary infertility, analyzing serum taken from the patients attacked in labs. Generation descendants are always considered sound generation and the number of individuals of newborns is vital and crucial for sustaining a healthy generation.

### **Material and methods**

In this study included 150 pregnant women, of which some were normal pregnancy, while others were marked with complicated pregnancies, for which there was suspicion for infection with these infectious agent. Method of work for performing control tests serological and virological markers (citomegalloviruseve and toksoplazmozës) is performed based on the following procedure: for conducting serological tests and virological markers deals venous blood, then centrifuging the sample taken from the patient (10 min with torque 2000x / min). Equipment with which they are conducted serological tests (citomegalloviruset) and virological (toksoplazmoza) mini VIDAS is an automated device, -assay immunoassay method (VIDAS CMV IgG, IgM and Tox. IgG, IgM).

Analysis (test) is realized based on a principle of combining two open (two-step) immunoesei sandwich method detection (detection) përfundtimtar fluorescence (ELFA).

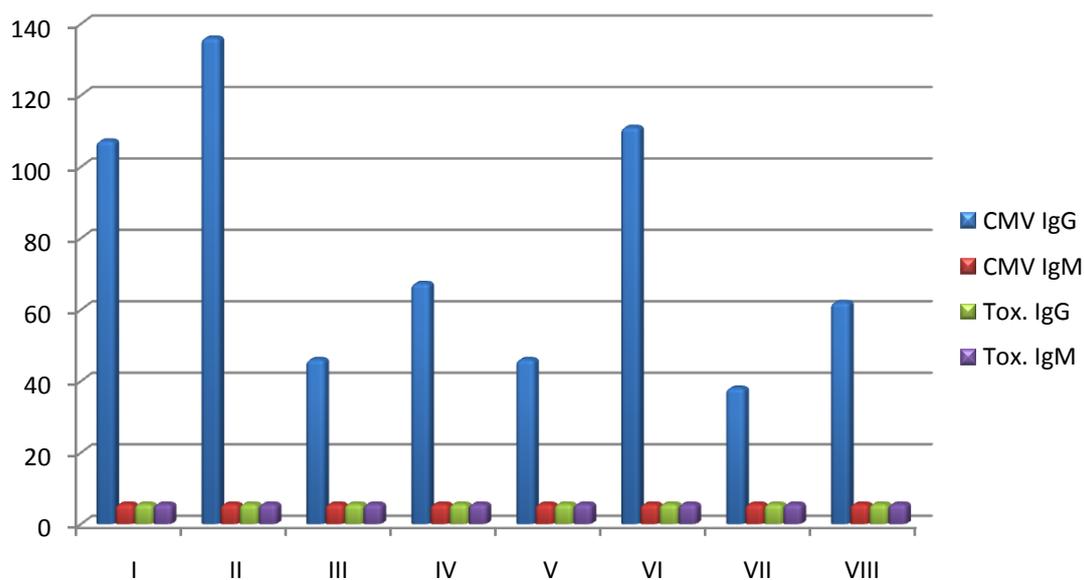
Against (Anti) CMV IgG antibodies present in the sample (sample) will relate to internal CMV antigens present in the kits in solid phase (SPR- Solid Phase Receptacle). Unbound components are eliminated during the washing steps. During the final step of discovery, the substrate (4- Phosphate metilumberliferyl) performs a cycle in and out of the solid phase.

Pair of punching enzymes catalyze hydrolysis of these substrates in a fluorescent product (4-Phosphate metilumberliferyl), whose fluorescent lighting is measured at 450 nm wavelength. Fluorescent intensity is proportional to the concentration of antibodies present in the sample.

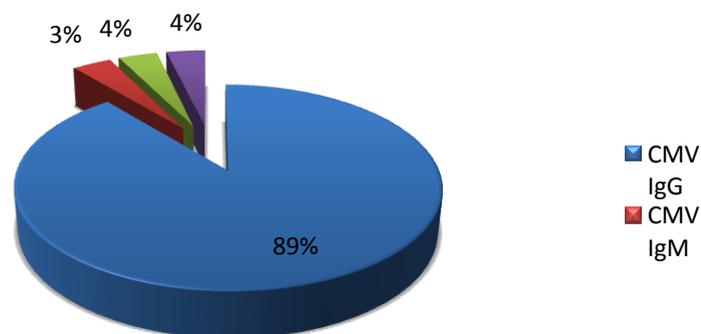
At the end of the analysis, the result is calculated automatically by the instrument in relation to the calibration curve stored in the device, and then print (print) out.

### Results

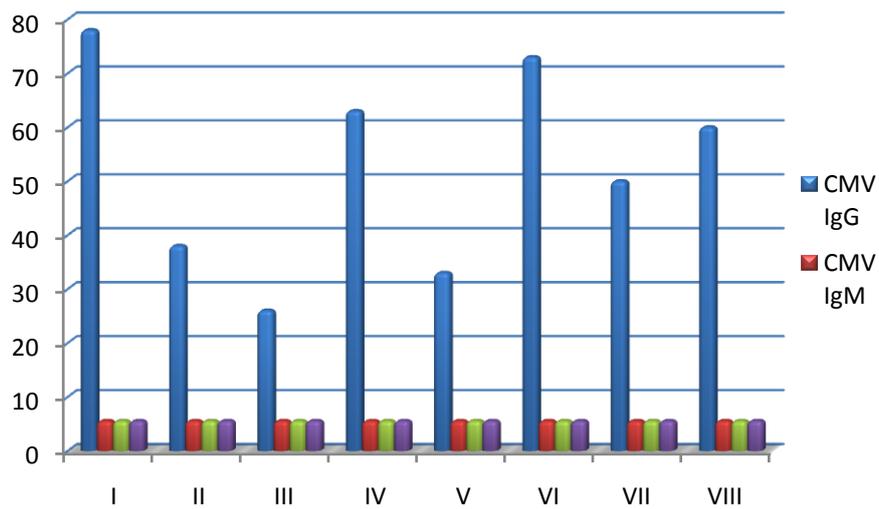
Samples analyzed in this work are taken during the months of July, August and September 2014. The results of the achieved will be processed in graphical way to achieve such a clear message about the issue how these infectious agent having the degree of negative expression cases spontaneous abortions and streilitetit Pollog population.



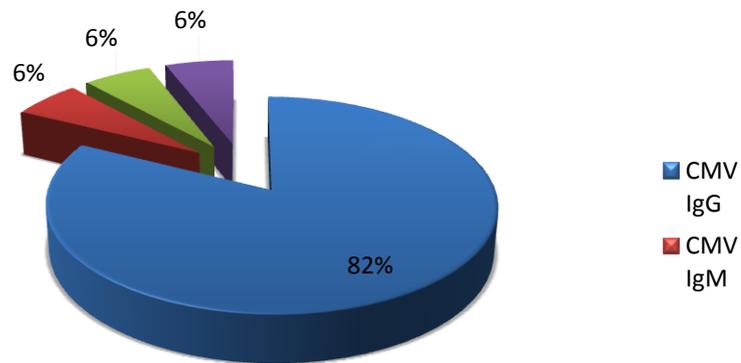
**Image 1.** Results of analyzes of patients attacked by serological markers during July - August



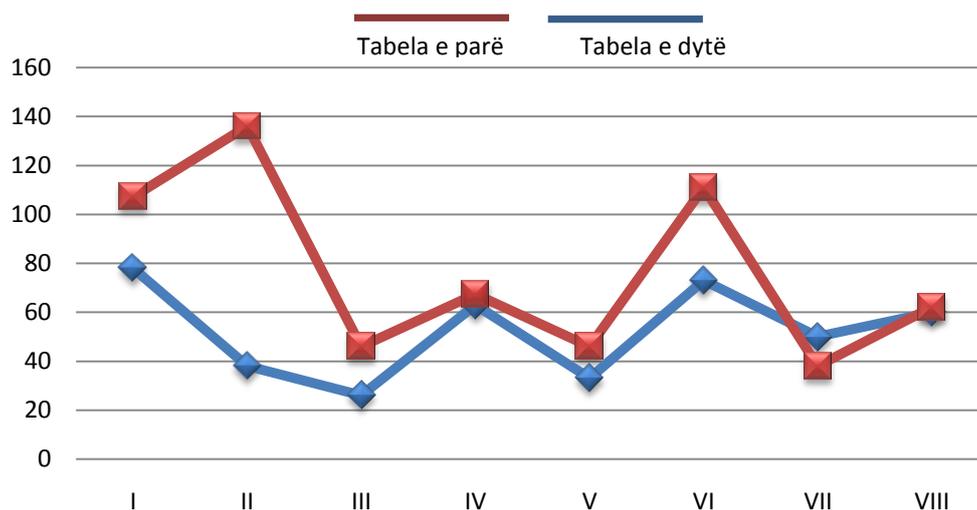
**Image 2.** Results of analyzes of patients attacked by serological markers during July - August expressed in %



**Image 3.** Results of analyzes of patients attacked by serological markers during September



**Image 4.** Results of analyzes of patients attacked by serological markers during September expressed in %



**Image 5.** Presentation of correlation between images 1 and 2

## Discussion

The great importance of these diseases to medical practice today and in the past related to their great ability and the risk that represents their sticky public health. Of the patients of the first group are all positive citomegalovirus negative CMV and Toxoplasma IgG (Tox.IgG and IgM) showing a degree of risk to pregnant women abortus in the first quarter. If expressed in percentage turns out that 89% of patients attacked by this infection citomegaloviruseve CMV IgG were positive, and only 11% of patients were negative attacked.

Of the patients analyzed in September of them 8 patients were CMV IgG positive and negative citomegalovirus in Toxoplasma (Tox.IgG and IgM). If this is expressed in percentage turns out that 82% of patients were infected with CMV IgG citomegalovirus and 18% of patients were negative by this type of infection.

From the overall results we see that over 80% of pregnant women were CMV IgG positive citomegalovirus indicating a high degree of risk of occurrence of abortions in pregnant women and 20% of patients were analyzed with spontaneous abortus. Also from this we may conclude that citomegalovirus and Toxoplasma are also causing primary and secondary infertility in women and men.

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