Seroprevalance of ToRCH Infection in pregnant women in Basra city Southern of Iraq

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Abstract. TORCH infection (Toxoplasma gondii, Rubella virus, Cytomegalovirus, Herpes simplex virus) causes severe consequences in child in ongoing pregnancy. The goal of the study was to determine the rates of infection of the toxoplasmosis and viruses that cause abortion in pregnant women. Among 50 adult female serums From the date of 2018 –Jan-10 to 2018-Oct-12. The total number of samples of Qurnah 25 number of positive infection 15 and the infection estimated 15/25 Which accounted for 60%, while the infection rate in Abi al-Khasib district of the total 25 samples of the number of infection 8 and estimated the proportion of infection 8/25, which constitutes 32% of the toxoplasmosis. The results of the current epidemiological study confirmed that the viruses that cause abortion in the Qurnah & Abe al-Khasib district of Rubella were 4 of the 50 blood samples (serum) showing that the percentage of infection is 4/50, which is 8% and the rate of infection of Cytomegalovirus 8/50 which is 16% The results showed that herpes virus was more infected than the virus above 24/50 and that the percentage was estimated to be 48%. These results indicate that the most common percentage among pregnant women Toxoplasmosis & herpes virus Cytomegalovirus, Rubella). (60%, 48%, 16%, and 8%, respectively.

Key words: TORCH T- Toxoplasmosis, R -Rubella C- Cytomegalovirus. H- Herpes simplex virus

The results have been confirmed by using a technique ELISA.

Conclusion:
We concluded from the study the two most common causes abortion in pregnant women in Basra city southern of Iraq :
T. gondii 60%
herspes virus 48%

Introduction
TORCH (Toxoplasma gondii, Rubella Virus, Cytomagalo Virus, Herpes Simplex Virus) infection, may cause serious consequences in developing fetus, though it may remain mild or asymptomatic in expecting mothers.[1]

The TORCH test, sometimes called the TORCH panel, belongs to a category of blood tests called infectious-disease antibody titers. A titer is the serial dilution of antibodies (protein molecules or immunoglobulins produced by the immune system in response to specific disease agents) found in blood serum that determines their level of concentration. Antibodies are proteins produced by the
immune system in response to infectious agents that are foreign to the body, such as viruses, bacteria, parasites, or toxins. These infectious organisms have antigens on their surfaces that stimulate the immune system to produce corresponding antibodies. IgM antibodies are produced in response to viruses. The TORCH test screens for the presence of IgM antibodies, and the titer determines their concentration in the blood. The name of the test is an acronym derived from the initial letters of the five groups of chronic infections: toxoplasmosis, other viruses, rubella, cytomegalovirus (CMV), and herpes simplex virus (HSV). The “other viruses” usually include syphilis, hepatitis B, coxsackie virus, Epstein-Barr virus (mononucleosis), varicella-zoster virus, and human parvovirus. The test is performed by various methods in the clinical laboratory and may also be referred to as viral immunoglobulins testing. Methods used in the early 2000s are more sensitive and specific and can identify the specific virus[2] Analysis of TORCH-infection is one of the main. The concept of TORCH-complex includes five infections, which are transmitted in uteri from mother to baby. A future mother who has learned about the presence of such infections in the body will be able to protect herself from miscarriage, as well as affect growth, the development of the baby and prevent the appearance of serious vices and organ diseases[3][4].

Methods and materials

Material Used
1. The Patients serum
2. Face mask
3. Latex examination gloves
4. Pipette (micro 10-100)µ
5. Dilution reagents
6. Kit (TORCH) IgM
7. ELISA KIT.

Methods

Step 1: bring the specimen and test component to room temperature if refrigerated or frozen. Once the specimen is thawed, mix well prior to performing the assay Step.
Step 2: when ready to test, open the pouch at notch and remove the device ,place the test device on a clean, flat surface.
Step 3: be sure to label the device with specimen ID number. In each panel making sure that there are no air bubble . Immediate added.
Step 4: fill the plastic dropper with specimen. Holding the dropper vertically, dispense 1 drop (about 10 ul) of serum/plasma or 1 drop of whole blood (about 15 ul) into the center of the sample well in each panel with bottle position vertically.
Step 5: set up the timer
Step 6: read result at 10 minutes. Positive result may be visible in as short as 1 minute. Negative result must be confirmed at the end of the 15 minute only. However any result interpreted outside the 10-15 minute window should be considered invalid and must be repeated. Discard used device after interpreting the result following local laws governing the disposal of device.
ELISA

Results

Among 50 adult female serums from the date of 2018 – Jan-10 to 2018-Oct-12. The total number of samples of Qurnah 25 number of positive infection 15 and the infection estimated 15/25 which accounted for 60%, while the infection rate in Abi al-Khasib district of the total 25 samples of the number of infection 8 and estimated the proportion of infection 8/25, which constitutes 32% of the toxoplasmosis.

The results of the current epidemiological study confirmed that the viruses that cause abortion in the Qurnah & Abe al-Khasib district of Rubella were 4 of the 50 blood samples (serum) showing that the percentage of infection 4/50, which is 8% and the rate of infection of Cytomegalovirus 8/50 which is 16% The results showed that herpes virus was more infected than the virus above 24/50 and that the percentage was estimated to be 48%. These results indicate that the most common percentage among pregnant women Toxoplasmosis & herpes virus Cytomegalovirus, Rubella. (60%, 48%, 16%, and 8%, respectively.

The results have been confirmed by using a technique ELISA.

Diagram (1) showing the percentage of infected pregnant women of toxoplasmosis in Qurnah & Abi al-Khasib district.
Diagram (2) showing the percentage of infected pregnant women of viral infection in Qurnah & Abi al-Khasib district.

Diagram (3) showing the percentage of infected pregnant women of Viral infection in Qurnah & Abi al-Khasib district. Toxoplasmosis &
Discussion & conclusions

This study indicates the results obtained a higher infection of toxoplasmosis & viruses in Basra city southern of Iraq in two rural areas. This study also showed a difference in health awareness between the two regions which explains why the other area is less likely to develop toxoplasmosis. The disparity between the two regions is due to the high level of health and health care for pregnant women in Abu Al-Khasib because it is close to the city and the high rate of infection by toxoplasmosis in Qurna due to lack of health awareness because it is far from the center of the city. The study also explained that most viruses that cause abortion are herpes virus.

We concluded from the study the two most common causes of abortion in pregnant women in Basra city southern of Iraq:
- T.gondi 60%
- Herpes virus 48%

Recommendations:
- Should avoid close contact with cats and their feces. Thus, avoiding cat litter boxes would be recommended.
- The MMR vaccination protects against rubella. Wash your hands often.
- Avoid contact with tears and saliva when you kiss a child.
- Avoid sharing food or drinking out of the same glass as others. Sharing glasses and kitchen utensils can spread the CMV virus. [5][6].
- Be careful with disposable items. Do not have sex while symptoms are present (genital, anal, or skin-to-skin).
- Do not kiss when there is a cold sore around the mouth.

References

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