



## International Journal of Current Research and Academic Review

ISSN: 2347-3215 Volume 3 Number 2 (February-2015) pp. x-xx

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### Detection of Antiphospholipid Antibodies Syndrome in Aborted Woman by ELISA Test

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#### KEYWORDS

Aluminium toxicity,  
Aluminium oxide  
(Al<sub>2</sub>O<sub>3</sub>),  
Vigna radiata

#### A B S T R A C T

This study was conducted to detect the role of *T.gondii* in abortion case and its association with the mentioned parasite and neutralize the possible relation between the infection in this parasite autoantibodies against phospholipids (APL) among women who consulted Children and Maternity Hospital in AL-Nasiriya province during the two months June and July 2014. Out of serum samples 10 (14.2%) were positive for anti-*Toxoplasma* Antibodies IgG antibodies and 2 (2.8%). Besides, results were positive for IgM antibodies and one sample (1.4 %) were positive for Antiphospholipid IgG antibodies and all results were negative for antiphospholipid IgM.

### Introduction

Toxoplasma gondii (T. gondii) as Skariah et al states an obligate intracellular protozoan parasite (Skariah et al, .2010). One of the major consequences of pregnant women becomes infected by *Toxoplasma gondii* is vertical transmission to the fetus. Although they were rare, congenital toxoplasmosis can cause severe neurological or ocular disease which leads to blindness), as well as cardiac and cerebral anomalies. The three main routes of transmission are ingestion of raw or undercooked meats, exposure to oocyst-infected cat feces, and vertical transmission. Elmore and et al in addition to Jones et al

point out that in pregnancy, the most common mechanisms of acquiring infection are through consuming raw, very undercooked meats, contaminated water, exposure to soil specially through gardening without gloves or cat litter ( Elmore et al., 201); (Jones et al, .2001).

The production of autoantibodies is an abnormal immune system response, where the body produces antibodies against itself. Anti- Pregnancy loss is one of the leading problems in women's health issues (Shapiro, 1996). The presence of antiphospholipid and

Anticardiolipin antibodies in serum has been associated with the antiphospholipid-antibody syndrome which is characterized by arterial and venous thrombosis or recurrent pregnancy loss attributed to placental thrombosis (Heine and Eckhardt, 1994).

Gris remarks that antiphospholipid syndrome (APL) is an autoimmune thrombophilic condition which is significantly associated with a history of thrombosis, recurrent miscarriages, late fetal death and thrombocytopenia (Gris,2009).

APL antibodies are considered to be a significant predictor of fetal loss. Women who are positive for APL antibodies increased risk of repeated early miscarriages and second or third trimester fetal deaths because sera of these women contain antibodies reactive against trophoblastic cells which are involved in the establishment of uteroplacental vasculature and maintenance of placental blood fluidity. These antibodies may exert a direct pathogenic effect by interfering with hemostatic process that takes place on the phospholipids membranes of cells such as platelets or endothelium. It was also suggested that APL autoantibodies may cause intravascular coagulation leading to recurrent abortions (Daboubi, 2001); (Salehi et al, .2007).

Furthermore, antiphospholipid syndrome (APS) is a major reproductive complication in women which is characterized by recurrent fetal loss, thrombosis, and thrombocytopenia in association with anticardiolipin antibodies (aCL). Besides, anticardiolipin antibody is found to be the most important factor for recurrent abortion. In addition, women with negative anticardiolipin antibody are having positive for another antiphospholipid antibodies like

aPS which may involve in recurrent abortion (Velayuthaprabhu and archunan, 2010).

## **Materials and Methods**

In this study, 70 aborted pregnant women were selected randomly from visitors of hospital patients of Maternity and Children Hospital in Nasiriya province. First of all, Blood sample was taken from each patient and centrifuged for about 5min at 4000 r.p.m. to obtain serum sample. Then, the serum samples were stored at 20 until tested By ELISA technique for quantitative determination of anti-toxoplasma and anti-phospholipids IgG and IgM following Bio Check instructions in ELISA of IgG and IgM.

## **Result and Discussion**

Distribution of the examined sera for anti-toxoplasma antibody by ELISA technique has been achieved. The Main age of the patients was  $26.8 \pm 7.2$ . Fro this test, twelve aborted women were found carrying specific anti toxoplasma IgG and IgM antibodies. Anti-toxoplasma IgG antibody was positive in 10(14.2%) aborted women which indicates previous exposure and only 2(2.8%) aborted women were considered positive for anti- toxoplasma IgM antibody who were positive for anti- toxoplasma IgM antibody. Also the result revealed that 8 (11.4% ) were equivocal.

Besides, the result showed that 1 (1.42%) and zero sample of examined women were seropositive for phospholipid IgG and IgM antibodies respectively.

After all, this result may be due to the availability of optimum environmental conditions for survive and spread the parasite in addition to the presence of more than one risk factor affecting the occurrence

of toxoplasmosis as the habits of people and the sanitary conditions and many sources of infection including the ingestion of sporulated oocyst in soil, eating undercooked meat contaminated with cysts, eating unwashed raw vegetables or unpeeled fruits (Al-Saeed et al, . 2008) What is more, negative cases indicate the presence of other causes of abortion rather than Toxoplasma, CMV and APL antibodies.

With respect, the causes of fetal loss are myriad, and many will have implication for future pregnancy. As a result, the risk of recurrence depends upon the cause of the first pregnancy loss, but adverse pregnancy outcomes appear to be more common in these women. Their pregnancies should be regarded as a high risk and monitored accordingly (Empson et al, 2002). Equally, known causes of maternal defects include coagulation disorders, autoimmune defects. Thus, the etiology in approximately 50% in recurrent pregnancy loss is unknown (Regan et al, 2002). The exact prevalence of the etiological factors remains unclear.

Accordingly, primary antiphospholipid syndrome has been associated with adverse pregnancy outcomes including three or more consecutive pregnancy losses of morphologically normal fetuses (Wilson et al, 1999).

In this study, the test showed the low percent (1.42) that positive for IgG and zero percent for IgM antibody was different from other study. It was found that the percentages of positivity for APL IgM, IgG, and both (IgG and IgM) were 27.0%, 8.0 % and 7.0 % respectively. While in other studies, the positivity of APL IgM, IgG, and both (IgG and IgM) were 8%, 7%, 4% and 13 %, 5 %, and 3 % respectively. It showed that IgM positivity 0% was low as it was compared to other studies (parazzini et al,

1991). Therefore, this may be due to transient and non-specific nature of IgM antibodies simply because these antibodies also increase secondarily to drug exposure and infections. Additionally, negative cases indicate the presence of other causes of abortion rather than Toxoplasma and APL antibodies.

## **Conclusion**

The evidence seems to indicate that *Toxoplasma gondii* is important causes of aborted women with recurrent first trimester miscarriage and all women with one or more second trimester miscarriage should be screened before pregnancy for toxoplasma and antiphospholipid antibodies.

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