

Immunoprevalence of Toxoplasmosis in different categories in women in AL-Diwanyia

Ghydaa Abass Jassem Coll . of Med . Univ of AL-Qadissyia

تحري مناعي عن الإصابة بداء المقوسات Toxoplasmosis في فئات مختلفة من النساء في محافظة الدوانية
د.غداء عباس جاسم
كلية الطب / جامعة القادسية

الخلاصة :-

لغرض التعرف على مدى إصابة النساء بطفيلي Toxoplasma gondii ولتحديد الإصابة في بعض الفئات المختلفة من النساء في مجتمع محافظة الدوانية من خلال قياس مستوى الأجسام المضادة للحالات الموجبة من هذه الفئات تم مسح وبائي مصلي شمل ٢٠٠ عينة دم جمعت من نساء فحصت باستخدام Anti - Toxoplasma gondii EILSA (IgM) طر ارتفاع الإصابة بصورة عامة بلغت ٤٥.٥% كما سجلت نسب مختلفة بين فئات النساء حيث كانت ٢٠.٥% ، ١٣.٥% ، ٢.٥% ، ٩% في النساء ذات الإجاض المتكرر وإجاض لمرة واحدة ونساء ذات حمل طبيعي ونساء غير متزوجات على التو

Abstract

The study was performed to determine the seropositive rate with **T. gondii** according to different categories in AL-Diwanyia province , and to titerate of the seropositive samples 200 blood samples were collected from different categories and were tested with Anti **Toxoplasma gondii** _ EILSA (IgM) test .The result shows obvious increase in general sero Positive rate to reach 45.5% with marked variation according to different categories in women as 20.5 % , 13.5% , 2.5% ,9% in women with Habitual abortion , Abortion for one time , Normal Pregnancy and not married women respectively .

Introduction

Toxoplasma gondii infection in humans is widespread throughout the world. .The incidence of infection in humans and animals may vary in different parts of a country .The cause for these variations is not yet known ; environmental conditions , Cultural habits and animal species are among factors that may determine the degree of natural spread of **T . gondii** (Howie - 1986) the relative frequency with which Postnatal toxoplasmosis is acquired by eating raw meat and by ingesting food contaminated by oocysts from cat feces . (Remington **et al** . 1995). Both modes of infection are reported to cause clinical toxoplasmosis

Humans Toxoplasma is an important cause of abortions and stillbirths after Primary infection in Pregnant women . The organism can also cross the placenta and infect the fetus .The symptoms of congenital toxoplasmosis include abnormal changes in head size (hydrocephaly or microcephaly), intra cranial calcifications , damage to the retina and mental retardation - some sequelae of congenital toxoplasmosis are not apparent at birth and may become apparent until the second or third decades (Peralson **et al** . 1985 ; Urquhart **et al** .1996; Buka **et al**.1999)

Preliminary analysis indicates an increased rate of immunoglobulin IgM (but not IgG) class antibodies to **Toxoplasma gondii** in mothers with infants in whom schizophrenia developed later , suggesting that the mothers were experiencing an active infection or that they had persistent IgM antibodies Increased levels of IgM were not found to other perinatal pathogens such as rubella virus or cytomegalovirus (Buka **et al** .1999). The disease spread in Tropic area in 41.75% in pregnant woman (Brogen **et al** .2002) and the parasite may infect different categories (AL Ramahi **et al** 2005)

Materials and Methoels

Collecting (200) blood Samples from women attended the out patients gynacology clinic AL-Diwaniya Governarete between May -December2007 Randomlly in different ages suffered from abortion (habitual abortion and for one time)and from normal Prengnacy women who had no history of abortion and from not married women . Sera was separated by blood centrifugation at 3000 rpm for 5 minutes Anti-**Toxplasma gondii** EILSA(IgM) Test instruction (EUROiMMUNKit ,Germany).

1 -Sample incubation :-

a- Transfer 100 calibrator, Postive and negative controls or diluted Patient samples in to individual microplate , Incubate for 30 minutes at room temperature

b- Washing , manual; Empty the wells and subsequently wash 3 times using 300 of Leave the wash buffer in each well for working Strength wash buffer for each wash . 30 - 60 second per wash cycle .

Then empty the wells after washing throughly dispose of all liquid from microplate by tapping . it on absorbent paper with the openings facing down wards to remove all residual wash buffer .

2- Conjngate incubation :-

a- Pipette 100 of enzyme conjugate (Peroxidase - Labelled anti- human IgM) in to each af microplate wells . Incubate for 30 minutes at room Tem perature. Washing , Empty the wells . Wash as described above .

3-Substrate incubation : Pipette 100 l of chromogen / Substrate solution into each af the microplate wells . Incubate for 15 minutes at room temperature .

4-Stopping the reactin by pipette 100 ml of stop solution in to each of the microplate wells in the same order and at same speed as the chromogen /su -bstrate solution was introduced .

5- Measurement:- Photometric measurment of the colour intensity should be made at awavelength of 450nm

Results

From 50 samples of habitual abortion group 41 case postive to the Test in (20.5%)then in the second group pregnant with one time abortion from 50 sample 27 give Postive to Toxoplasmosis test in (13.5%) either in normal pregnant from 50 sample , 5 give postive to test in (2.5%) , In not married women group 50 samples 18 give postive in 9% (Table 1) from the total (91) postive case to the test from 200 women (45.5%) in AL-Dwiunyya governrate .table(2)show the No .& postive Per . of cases to test frome different categories.

Table -1-
No.& postive Per . of cases

	No. sample	postive	%
Habitual abortion group	50	11	20.5
Abortion for one time	50	27	13.5
Nomal pregnancy	50	5	2.0
Not married women	50	18	9
Total	200	91	40.0

Table -2-

No.&postive Per . of cases to test frome different categories

	No. sample	postive	%
Habitual abortion group	50	٤١	٨٢
Abortion for one time	٥٠	٢٧	٥٤
Nomal pregnancy	٥٠	٥	١٠
Not married women	٥٠	١٨	٣٦
Total	٢٠٠	٩١	٤٥.٥

Discussion

Diagnosis of Toxoplasmosis can be aided by serologic or histocytologic examination .clinical signs of toxoplasmosis are non - specific and cannot be depended on for a definite diagnosis ; toxoplasmosis clinically mimics several other infectious diseases . Many serologic tests have been used to detect antibodies of *T. gondii* The most reliable of these is the sabin - feldman dye test , but this test is high cost and the human hazard of using live organisms . In this study which uses the ELISA test soluble antigens appears to be specific and may become the standard test in the future ,to detect the specific IgM antibodies in serum of patients (Guerina et al .1994) Toxoplasmosis commonly occurs in women the serological data of this study indicated that was association between toxoplasma infection and habitual abortion it was occurred in (82%) in women , similar observations have also been made by AL- sodany et al .(2007) in measn who founding (81.5%).

This study Present a positive serological test for *T. gondii* . in women with no history abortion or in those who have no successfully pregnancies (abortion one time) this fact which is in agreement with (Howie PW .1986) . Controversial reports have appeared regarding its role in habitual and sporadic abortion (Kimball et al 1971 ; kean , 1972 , Mahajan , 1976) .

The present results seropositive in normal pregnant and not married women , that lead to fact that the toxoplasmosis found in different categories in the city (45.5%) this agreement with AL- Ramahy , et al .(2005) the study show the seropositive in (49.6%) in different categories . In the present study patients with habitual abortion had higher antibodies titer than the group of normal pregnant and abortion for one time , this finding supported by (Joens et al 1969 ; AL- Sodany et al (2007)That lead to the fact that the Toxoplasmosis is found in different categories in this city . To reduce the disease there must be regular serological screening before and after Pregnancy , which will help a lot .

References

- 1-AL-Ramahi .H.M., Aajiz .N.N., Abdl-Hadi .H.(2005)
Seroprevalence of toxoplasmosis in different professional categories in AL- Qadisiya
Journal of vet . med - Sci . Vol- 4.No.1,30-33.
- 2-AL--Sodany, Ali K; Saleh .. Talal H.(2007). The Percentage of Toxoplasmosis among
women Bas. J.Vet . Res . Vol.6.No.1 .
- 3-Brogen ,S,A ; Shashikant ;Sarman , S. and Kapoor , S.K. (2002).Seroprevalence of
Toxoplasma infection among primigravid women attending antenatal clinic at a secondary
Level hospital in north India .J.I.M.A. 100(8):1-9.

- 4-Buka SL, Yolken RH, Torrey EF, Klebanoff MA, Tsuang MT. (1999) Viruses Fetal hypoxia and Subsequent Schizophrenia A direct test of infectious agents using prenatal sera. *Schizophr Res* ;36:38.
- 5- Dubey JP, Beattie CP(1988) . *Toxoplasmosis of animals and man* CRC Press Boca Raton , .L.
- 6-Guerina NG, Hsu Hw, Meissner HC . (1994) Neonatal serologic and early treatment for Congenital *Toxoplasma gondii* infection .*N.Eng .J. Med* 330 :1858.
- 7-Howie PW. (1986). Abortion and ectopic Pregnancy . In: White field CR, ed . Dewhurst text book .
- 8-Jones MH. (1969) . *Toxoplasmosis and abortion* . *American journal of obstetrics and gynecology* . 104(6):19-20 .
- 9-Kaiser GL, Burke CE. (1996). Schizophrenia like Syndrome following chronic hydrocephalus in a teenager . *Eur J Pediatr Surg* . 6: 39-40 .
- 10- Kean BH.(1972) . Clinical toxoplasmosis -50 years. *Transactions of the Royal Society of Tropical medicine and Hygiene* ,66(4) :549 -71
- 11-Kimball AC; Kean BH, Fuchs F. (1971) . The role of toxoplasmosis in abortion . *American Journal of obstetrics and gynecology* , 111:219-26
- 12-langer H.(1963) .Repeated congenital infection with *T. gondii* . *obstetrics and gynecology* ,21:29 .
- 13- Mahajan Rc. (1976). *Toxoplasmosis role in abortion* .*Indian journal of medical research* , 64 (6) 797- 800 .
- 14- pearlson GD, Garbacz DJ, Moberg PJ, Ahn HS, Depaulo JR.(1985) .Symptomatic Familial, Perinatal, and Social Correlates of computerized axial tomography Cat changes in Schizophrenics of bipolars . *J Nerv Ment Dis* ,173:42-50.
- 15- Remington , Js. Mcleond R, Desmonts G. (1995) . *Infectious Diseases of the fetus and New born Infant* . Philadelphia . W. B. Saunders Company .
- 16- Urquhart , G.M, Armour . J., Duncan , J.L , Dunna , A.M , and Jennings , F.W. (1996). *Veterinary Parasitology* . second edition . black WellScience .L TD -234-238.
- 17-Witting PA. (1979). Learning capacity and memory of normal :and *Toxoplasma* infected Laboratory rats and mice *Z parasitenkd* ;61; 29-51