

# 1gM and IgG Antibodies specific to *Toxoplasma gondii* in Child Bearing Women

Pages with reference to book, From 214 To 214

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## Introduction

Toxoplasmosis is a zoonotic disease caused by protozoan parasite known as *Toxoplasma gondii*<sup>1</sup>. It has been frequently incriminated in causation of abortion, repeated abortion, premature births and congenitally infected babies<sup>2</sup>. Spontaneous abortion occurs in 10% of patients acquiring disease in first trimester of pregnancy<sup>3</sup>. This study was conducted to determine the frequency of toxoplasmosis in women with normal reproductive performance and those with history of abortions and animal handling.

## Patients, Methods and Results

A total of 1330 women from different hospitals of Karachi (1986- 1992) comprising of 540 pregnancy wastage (abortion) group, 388 abortions alongwith history of animal handling group and 402 with normal reproductive performance were screened for antitoxoplasma antibodies of 1gM and IgG types by Enzyme Immuno Assay (EIA). Their particulars were recorded and 5 ml blood was taken. Sera were stored at -4°C to -20°C till processed. All sera were tested in duplicate in 1:100 dilution for 1gM and IgG antibody using kits specific *Toxoplasma gondii* (Labsystems, Finland). The 1gM positive results were confirmed by *Toxoplasma* 1gM confirmatory kit<sup>4</sup>. The 1gM antibodies were found mostly in young women (20 to 30 years age group) and frequency of IgG antibodies increased with the age. The observed pattern of antitoxoplasma antibodies is shown in the Table.

**Table. *Toxoplasma* IgM and IgG antibodies in child bearing age women.**

Group	Total tested	IgM sero-positive	IgG sero-positive
AB + AH	388	188 (30.4)	190 (49.0)
AB	540	121 (22.4)	236 (43.7)
NRP	402	30 (7.5)	68 (16.9)
Total	1330	296 (20.2)	494 (37.1)

Result in parenthesis is percentage

AB = Abortion P < 0.05 significant (AB, AB+AH, compared with NRP group)

AB +AH = Animal handler P > 0.05 insignificant (AB compared with AB +AH group)

NRP = Normal reproductive performance.

Frequency of antibodies was significantly higher (P < 0.05) in the abortion group than in normal reproductive performance group. Animal handling increased the risk of infection with *Toxoplasma* but the difference in the frequency of antibodies between abortion and abortion plus animal handling groups was insignificant (P > 0.05).

## Comments

Toxoplasma is a protozoan disease mainly affecting pregnant women and their foetuses throughout the world<sup>5</sup>, although the frequency of such disease varies from country to country and within the country<sup>6</sup>. Toxoplasma is responsible for quite a number of reproductive losses, premature babies and congenital toxoplasmosis<sup>2</sup>. In women with normal reproductive performance sero-positive cases are less but the females are at risk of abortion or miscarriage or still birth during pregnancy or may give birth to premature baby or child with congenital toxoplasmosis. Preventive measures in women at high risk will prevent consequences of congenital toxoplasmosis<sup>7</sup>. IgG sero-positive cases are not much, which indicates that less number of women are protected against toxoplasma (2%) in our population. No effective vaccine is available for toxoplasma gondii. IgG results are compatible with previous small sample size study done locally by different technology (Direct Agglutination Method)<sup>8</sup>.

## References

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