

## TOXOPLASMA IGG TITRE IN WOMEN WITH BAD OBSTETRIC HISTORY

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### SUMMARY

The present study was carried out to find the seroepidemiologic aspect of Toxoplasmosis in women with previous history of pregnancy loss in form of abortion, preterm, stillbirth and congenital malformations. Twenty eight percent of cases with past history of abortion were sero-positive for Toxoplasma. Preterm cases had incidence of 20% whereas stillbirth and congenitally malformed group had sero-positivity of 24% each. Among the congenital malformations, anencephaly, microcephaly and cleft lip - palate were seen. Hydrocephalus was not seen in any sero-positive patient.

### INTRODUCTION

Toxoplasmosis refers to the disease caused by the protozoa, *Toxoplasma gondii*, which is an obligate intracellular parasite. Toxoplasma is an important cause for various obstetrical pathologies such as abortions, premature delivery, still-birth and congenital malformations. Toxoplasma infections are clinically mild and non-specific in immunologically intact individuals. The fetus becomes infected only when the mother

acquires the infection during the gestation. The risk and severity of infection in the fetus depends on the duration of pregnancy at which the mother acquires the infection. The present study was designed to detect the incidence of Toxoplasma infection in cases with history of pregnancy loss in the form of abortion, still-birth, pre-term delivery and congenital malformations by estimating Toxoplasma IgG titre.

### MATERIAL & METHODS:

The present study includes 125 women in the age group 15-40 years admitted or

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attending outdoor clinics in State Zenana Hospital, Jaipur in the year 1991-92. Out of 125 women, 100 were with previous history of pregnancy loss in the form of abortion, preterm, still-birth and congenital malformation and 25 were control cases without any past bad obstetric history. All the subjects were screened by subjecting them to detailed clinical history & physical examination and laboratory tests which included Hb, CBC, blood grouping, VDRL, Fasting & post-prandial blood sugar, complete urine examination, ultrasonography etc. Toxoplasma IgG estimation was done by Modified Desmonts & Remington technique. Titre of 1:20 and more was

taken as positive for infection with Toxoplasma in the past.

### RESULTS

The incidence of Toxoplasma seropositivity in the study group (Bad obstetric history - BOH) is 24% whereas in the control group, it is 16%. (Table No.I).

Table No. II depicts the Toxoplasma sero-positivity in 28% cases of abortions, 20% cases of preterm deliveries and in cases with still-births and with congenitally malformed fetuses, the incidence was 25% in each group.

Table No.III shows that 25% of habitual abortion cases were sero-positive whereas

**Table I**  
**Incidence of Toxoplasma Seropositivity in study & control Groups**

Group	No. of cases	Negative	Positive					Total positive
			1/20	1/40	1/80	1/160	1/320	
Study	100	76(76%)	8	5	5	4	2	24
Control	25	21(84%)	1	0	2	1	0	4
Total	125	97(61%)	9	5	7	5	2	28

**Table II**  
**Toxoplasma Seropositivity in Relation to type of pregnancy loss.**

Type of Pregnancy loss	No.	Seropositive		Seronegative	
		No.	%	No.	%
Abortion	25	7	28	18	72
Preterm	25	5	20	20	80
Stillbirth	25	6	24	19	76
Congenital malformation.	25	6	24	19	76

**Table III**  
**Toxoplasma seropositivity and its relation to Type of Abortion.**

Type of abortion	No.	Seropositive	%
Habitual	20	5	25
Sporadic	5	2	40

**Table IV**  
**Toxoplasma seropositivity and type of congenital Malformations.**

Congenital malformation	No. of cases	Seropositive	
		No.	%
Anencephaly	13	4	30.7
Hydrocephaly	3	0	0
Microcephaly	1	1	100
T.O. fistula	1	0	0
Myelocoele	5	0	0
Cleft lip-palate	2	1	50

40% cases of sporadic abortion cases were seropositive.

Among the congenital malformations, anencephaly, microcephaly and cleft lip - palate were seen in seropositive patients. Hydrocephaly, T.O. fistula and myelocoele showed no relation to Toxoplasma infection.

#### **DISCUSSION**

There is a definite association of Toxoplasma infection with pregnancy loss and severe congenital manifestations in the newborn. When infection occurs in the periconceptual period or in the first trimester, it may cause miscarriage or death in utero or result in severe neurological

lesions. This view was supported by Cech et al (1960) who did skin test with toxoplasmin in 379 women whose pregnancy resulted in various types of pregnancy loss. We found Toxoplasma seropositivity in 24% of our study group with history of pregnancy loss. V. Hingorani (1960) found Toxoplasma association with pregnancy wastage in 14% of their cases.

A. Kimball (1971) found association of Toxoplasma with spontaneous abortion but not with recurrent abortion. We found Toxoplasma seropositivity more frequent in sporadic abortions (40%) as compared to recurrent abortions (25%) congenital Toxoplasma infection is not seen in more than one child of the same mother which

indicates that primary infection with *Toxoplasma* has a significant association with pregnancy wastage. Chronic infection limits further transmission of disease.

When acute infection with *Toxoplasma* occurs during the course of pregnancy, the parasite can cross the placenta & infect the fetus resulting in congenital malformations chiefly in the form of neurological lesions. Anencephaly, microcephaly & cleft lip-palate was seen in seropositive cases in our study. A. Kimbell (1971) showed a positive relation between *Toxoplasma* and hydrocephalus which was however not seen in our study.

### CONCLUSION

Toxoplasmosis is a significant cause of pregnancy wastage, in the form of abortion, preterm, stillbirth and congenital malformations. Seropositivity is more common in sporadic than in recurrent abortions. Anencephaly, microcephaly and cleft lip palate are common congenital malformations seen in seropositive subjects.

### REFERENCES

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