BAD OBSTETRIC HISTORY AND MATERNAL TOXOPLASMOSIS

(A Retrospective Study)

by

M. N. PAL, M.D., D.G.O., M.A.M.S.

Introduction

The role of toxoplasmosis as a cause of pregnancy losses is certain though it may manifest in various forms. There are many reports in the literature including that of Remington *et al* (1964) and Pal *et al* (1975) who have proved a significant correlation of the abnormal outcome of pregnancy in form of premature labour, stillbirth neonatal death and congenital abnormality with a high toxoplasma antibody titer in the mother.

Langer (1963) isolated toxoplasma gondii in 23 out of 70 women with habitual or repeated miscarriages, premature birth or stillbirth. But Vorrherr (1965) and Thalhammer (1966) in their review have pointed out procedural defect and inconsistencies in the study of Langer (1963). Kimball *et al* (1971) studied on 5,000 obstetric patients found a significant correlation between chronic toxoplasmosis and sporadic abortion.

Material and Methods

Six hundred and eighty-seven patients who had bad obstetric history from 2851 patients who delivered at Postgraduate Institute of Medical Research, Chandigarh between January, 1978 to June, 1979 were evaluated to find out any correlation between maternal toxoplasmosis and pregnancy losses.

Following detailed history and examination, all patients were subjected to various investigations viz. ABO grouping and Rh typing, urine culture, glucose tolerance test, STS, Serum biochemistry etc. Sera were tested for toxoplasmosis by means of indirect haemagglutination test (Jacobs and Lunde, 1957). A titer of 1:200 and above was taken as significant for diagnosis of toxoplasmosis. After diagnosis were made, patients were treated with Rovamycin and titer were followed serially till it became normal.

Observation

There were a total of 21 cases of maternal toxoplasmosis out of 687 cases with bad obstetric history forming an incidence of 3.2 per cent.

Maximum cases, 10 (47.6%), were found between 21 to 25 years age group. There was only 1 (4.7%) case above 35 years.

Maximum cases, 13 (61.9%), belonged to gravida 2 to gravida 5. Only 1 (4.7%) case was noted from gravida 8 to gravida 10 while none from above gravida 10.

Table I shows the breakup of other factors with toxoplasmosis. Out of a total of 21 cases, other associated factors were observed only in 7 (30.0%) cases. Diabetes were found in 2 (28.5%) and hypertensive disorder with pregnancy in

Lecturer.

Department of Obstetrics and Gynaecology, Postgraduate Institute of Medical Education and Research, Chandigarh.

Accepted for publication on 14-11-79.

TABLE I
Distribution of other associated factors

	Factors	Number	Percentage
I	No associated factors	14	70.0
II	Associated factors*	7	30.0
	Diabetes	2	28.5
	Pre-eclamptic Toxaemia	3	42.8
I	Essential hypertension with superimposed toxaemia	1	14.2
	Syphilis	1	14.2
	Contracted pelvis	1	14.2

*One patient had more than one factor.

4 (57.0%) cases respectively. One patient had both syphilis and contracted pelvis.

Table II shows distribution of antibody

TABLE II
Distribution of Toxoplasma Antibody Titer

Titer	No.	Percentage
1:256	1	4.7
1:512	12	57.1
1:1024	1	4.7
1:2048	7	33.3

titers. Maximum cases, 12 (57.1%), had titers of 1:512 while a titer of 1:2048 were present in 7 (33.3%) cases.

All cases showed regression of follow-up titers after institution of therapy.

Table III shows outcome of present

TABLE III
*Outcome of Present Pregnancy**

Outcome	Number	Percentage
Abortion	2	9.5
Premature labour	3	14.2
Congenital malformation	1	4.7
Stillbirth (Macerated)	2	9.5
Neonatal death	1	4.7

*Some patients had more than one disorder.

pregnancy. Six (28.5%) cases had some forms of reproductive disorder with toxoplasmosis. More than one disorder was observed in 2 cases. Two (9.5%) cases had stillbirth and 1 (4.7%) had neonatal death respectively. Three (14.2%) cases ended in premature labour while 2 (9.5%) of the cases had abortion.

Discussion

A total of 687 cases with bad obstetric history were reviewed to find out the correlation between maternal toxoplasmosis and reproductive disorders. A titer of 1:200 and above with indirect haemagglutination test was taken as positive for toxoplasmosis. There were a total of 21 cases with maternal toxoplasmosis out of 687 cases with bad obstetric history, forming an incidence of 3.2%. Ten (47.6%) cases were in the age group of 21 to 25 years, and 13 (61.9%) cases were between gravida 2 to gravida 5. In 7 (30.0%) cases there were other associated factors besides toxoplasmosis to explain for pregnancy losses. Four (57.0%) of them had hypertensive disorder with pregnancy while diabetes was present in 2 (28.5%) cases. One (14.2%) case had both syphilis and contracted pelvis (Table I). Maximum cases i.e. 12 (57.1%) had antibody titer of 1:512 and higher titer i.e. 1:2048 were observed in 7 (33.3%) cases. All cases after treatment had normal follow-up titers. Abortion and premature labour with current pregnancy were observed in 2 (9.5%) and 2 (14.2%) cases respectively. Two (9.5%) cases had macerated stillbirth while 1 (4.7%) case had neonatal death (Table III).

Conclusion

A retrospective analysis of 2851 pregnant patients which included 687 cases with bad obstetric history were evaluated

to find out the role of maternal toxoplasmosis with reproductive disorders. There were a total of 21 cases of toxoplasmosis forming an incidence of 3.2%. In 7 (30.0%) cases there were other associated factors to explain for pregnancy losses. Six (28.5%) of 21 cases and some form of reproductive disorders even with the present pregnancy.

References

1. Kimball, A. C., Kean, B. H. and Fuchs, F.: Am. J. Obstet. Gynec. **111**: 211, 1971.
2. Langer, H.: Obstet. Gynec. 21: 318, 1963. 1963.
3. Pal, M. N., Bhatia, V. N., Kotwani, B. G. and Agarwal, D. S.: Ind. J. Med. Research. **63**: 11, 1975.
4. Remington, J. S., Newell, J. W. and Chvanaugh, E.: Obstet. Gynec. **24**: 25, 1964.
5. Thalhammer, V. O.: Quoted by: Reference 1.
6. Vorherr, H.: Quoted by: Reference 1.