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Study of Bad Obstetric History with Specific Reference to TORCH Profile

Kranti Venkatrao Kendre*, Chandrakala S. Patil*

Abstract

Every married couple is desirous to have full term newborn without any congenital anomalies and medical or surgical disorder. Recurrent miscarriage is the most distressing problem in many couples. Intrauterine infection remains one of the major challenges for the obstetrician during pregnancy.

TORCH infection correlates with bad obstetric history (BOH). It may produce spontaneous abortion, intrauterine fetal death, congenital anomalies, IUGR and still birth.

83 patients with BOH were evaluated. These patients were investigated for presence of TORCH, IgG and IgM antibody by ELISA Test. In this study, 29.39% of cases were IgG TORCH positive whereas 3.01% IgM positive. 26.51% were Rubella IgG positive and 4.62% were Rubella IgM positive. 21.69% were CMV IgG positive and 15.61% Herpes simplex IgG positive. It was observed that incidence of preterm deliveries and congenital anomalies was more in toxo-positive titers while incidence of spontaneous abortion was more in Rubella, CMV and HSV positive titers. Outoff 83 patients 28 had still birth with congenital anomalies.

It was concluded that TORCH screening is must and consulling for adverse effects may be of help to reduce ill effects of the infection.

Keywords: Screening in Pregnancy; ANC Checkup; TORCH Infection; Congenital Malformation; Still Birth.

*Associate Professor, Dept. of Obstetrics and Gynecology, MIMSR Medical College, Latur.

Kranti Venkatrao Kendre, Associate Professor, Dept. of Obstetrics & Gynaecology, Maharashtra Institute of Medical Science and Research, Medical College, Latur, Maharashtra 413531.
E-mail: drvinayak1@gmail.com

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Introduction

Recurrent miscarriage is the most distressing problem to couples who understandably expect answers and solutions. It is not only physical trauma but also emotional upset for a woman who conceives but cannot retain products of conception in utero or has adverse pregnancy outcome.

The mysterious cause for recurrent miscarriage when all other investigations were normal could be something new and never investigated. Intrauterine infections remain one of the major challenges for the obstetrician during pregnancy. TORCH infections have been studied world-wide to establish it's correlation with bad obstetric history (BOH). TORCH infection includes infection associated to Toxoplasma, Rubella, Cytomegalovirus (CMV) and Herpes simplex. Highly sensitive and specific antibody tests are available for diagnosis of TORCH infections. This infection in pregnancy carry significant consequences for fetus such as spontaneous abortion, intrauterine fetal death, congenital malformations, intrauterine growth retardation and stillbirths. So this study is an attempt to correlate effects of TORCH infections during pregnancy.

Aims and Objectives

The aim of this study was to correlate existence of TORCH infections in patients

with BOH , to rule out other causes like infections, medical disorders, uterine anomalies etc. as causes of recurrent pregnancy wastage and also to provide fruitful pregnancy to those who have suffered multiple foetal losses.

Material and Methods

This prospective study carried out at our institute, complies of 83 patients with BOH. Each patient who entered in the study as a case of BOH had suffered two or more consecutive pregnancy losses and were registered at ANC Clinic and had regular follow- up.

The comparative study has been carried out taking into account the obstetric outcome amongst BOH patients who had TORCH positive and negative (IgG & IgM) titers. The form of pregnancy wastage included –abortions, pre-term deliveries and stillbirths. These patients were investigated for anaemia, syphilis, diabetes, chronic liver diseases, urinary tract infections and Rh iso-immunisation.

When all these causes were ruled out, the patient was screened for presence of TORCH IgG & IgM antibodies by ELISA-TEST. The various other factors associated with BOH & TORCH infections were also excluded, such as –whether the patient regularly followed up ANC- OPD or not and ANC admission.

Observations

Table 1: Distribution of boh cases amongest torch positive and negative cases (IGG & IGM)

	IGG No. (%)		IGM No. (%)	
	Positive	Negative	Positive	Negative
Toxoplasma	18(21.69)	65(78.31)	5(6.02)	78(93.98)
Rubella	22(26.51)	61(73.49)	4(4.82)	79(95.18)
Cytomegalovirus	18(21.69)	65(78.31)	Nil	83(100)
Herpes Simplex	13(15.66)	70(84.34)	1(1.20)	82(98.80)

Table 2: Showing ultrasonography

	IGG No. (%)				IGM No. (%)			
	Positive		Negative		Positive		Negative	
	Normal	Abnormal	Normal	Abnormal	Normal	Abnormal	Normal	Abnormal
Toxoplasma	15(83.33)	3(16.67)	60(92.31)	5(7.69)	5(100)	Nil	73(93.59)	5(6.41)
Rubella	20(90.91)	2(9.09)	55(90.16)	6(9.84)	4(100)	Nil	74(93.67)	5(6.33)
Cytomegalovirus	17(94.44)	1(5.56)	59(90.77)	6(9.23)	nil	Nil	78(93.98)	5(6.02)
Herpes Simplex	12(92.31)	1(7.69)	65(92.86)	5(7.14)	1(100)	Nil	77(93.90)	5(6.08)

Table 3: Treatment given toxoplasma

Treatment	IGG No. (%)		IGM No. (%)	
	Positive	Negative	Positive	Negative
Tocolytic Drugs	3(16.67)	13(20)	2(40)	15(19.23)
Proluton Depot	6(33.33)	19(29.33)	1(20)	25(32.05)
Antibiotics	12(66.67)	6(9.23)	3(60)	14(17.95)
Cervical Encirclage	1(5.55)	17(26.15)	NIL	18(23.08)

Table 4: Treatment given rubella

Treatment	IGG No. (%)		IGM No. (%)	
	Positive	Negative	Positive	Negative
Tocolytic Drugs	4(18.18)	17(27.87)	1(25)	19(24.05)
Proluton Depot	7(31.82)	18(29.51)	1(25)	24(30.38)
Antibiotics	13(59.09)	5(8.20)	2(50)	16(20.25)
Cervical Encirclage	1(4.55)	17(27.87)	NIL	18(22.78)

Table 5: Treatment given cytomegalovirus

Treatment	IGG No. (%)		IGM No. (%)	
	Positive	Negative	Positive	Negative
Tocolytic Drugs	2(11.11)	14(21.34)	NIL	17(20.48)
Proluton Depot	4(22.22)	21(32.31)	NIL	25(30.12)
Antibiotics	12(66.67)	4(6.15)	NIL	16(19.28)
Cervical Encirclage	1(5.56)	18(27.69)	NIL	18(21.69)

TTable 6: Treatment given herpes simplex

Treatment	IGG No. (%)		IGM No. (%)	
	Positive	Negative	Positive	Negative
Tocolytic Drugs	1(7.69)	20(28.57)	1(100)	20(24.39)
Proluton Depot	4(30.77)	22(31.43)	NIL	26(31.71)
Antibiotics	9(69.23)	9(12.86)	NIL	17(20.73)
Cervical Encirclage	NIL	18(25.71)	NIL	18(21.95)

Table 7: Obstetric outcome toxoplasma

Obstetric Outcome	IGG No. (%)		IGM No. (%)	
	Positive	Negative	Positive	Negative
Full Term Delivery	8(44.44)	23(35.38)	4(80)	27(34.62)
Pre Term Delivery	3(16.67)	8(12.31)	1 (20)	11(14.10)
L.S.C.S.	4(22.22)	14(21.54)	NIL	18(23.08)
Still Birth	3 (16.67)	4(6.15)	NIL	6(7.69)
Spontaneous Abortion	NIL	6(9.24)	NIL	6(7.69)
Induced Abortion	NIL	NIL	NIL	1(1.28)
Follow-Up	NIL	10(15.38)	NIL	9(11.54)

Table 8: Obstetric outcome rubella

Obstetric Outcome	IGG No. (%)		IGM No. (%)	
	Positive	Negative	Positive	Negative
Full Term Delivery	10(45.45)	20(32.79)	1(25)	29(36.71)
Pre Term Delivery	2(9.09)	9(14.75)	NIL	11(13.94)
L.S.C.S.	3(13.64)	13(21.31)	1(25)	16(20.25)
Still Birth	1 (4.55)	6(9.84)	NIL	7(8.87)
Spontaneous Abortion	5(22.73)	1(1.64)	2(50)	4(5.06)
Induced Abortion	1 (4.55)	NIL	NIL	1(1.27)
Follow-Up	NIL	12(19.67)	NIL	11(13.92)

Table 9: Obstetric outcome cytomegalovirus

Obstetric Outcome	IGG No. (%)		IGM No. (%)	
	Positive	Negative	Positive	Negative
Full Term Delivery	8 (44.44)	23(35.38)	NIL	31(37.35)
Pre Term Delivery	2(11.11)	9(13.85)	NIL	11(13.25)
L.S.C.S.	1(5.56)	16(24.62)	NIL	17(20.48)
Still Birth	1 (5.56)	6(9.23)	NIL	8(9.64)
Spontaneous Abortion	3(16.66)	3(4.62)	NIL	5(6.02)
Induced Abortion	1 (5.56)	NIL	NIL	1(1.21)
Follow-Up	2(11.11)	8(12.31)	NIL	10(12.05)

Table 10: Obstetric Outcome Herpes Simplex

Obstetric Outcome	IGG No. (%)		IGM No. (%)	
	Positive	Negative	Positive	Negative
Full Term Delivery	4 (30.77)	27(38.57)	1(100)	30(36.59)
Pre Term Delivery	1(7.69)	10(14.29)	NIL	11(13.41)
L.S.C.S.	2(15.39)	15(21.43)	NIL	17(20.73)
Still Birth	NIL	7(10)	NIL	7(8.54)
Spontaneous Abortion	1(7.69)	5(7.14)	NIL	6(7.32)
Induced Abortion	1 (7.69)	NIL	NIL	1(1.22)
Follow-Up	4(30.77)	6(8.57)	NIL	10(12.20)

Discussion

This is prospective study of 83 patients with bad obstetric history (BOH). In this study 21.39% of cases were lgG TORCH positive while 3.01% were lgM TORCH positive.

Out of these 21.69% of cases were toxo-lgG positive and 6.02% were toxo-lgG positive, 26.51% of cases were Rubella IgG positive and 4.82% cases were IgM positive, 21.69% of cases were CMV IgG positive, 15.66% of cases were Herpes simplex IgG positive and 1.20% of cases were HSV IgM positive

respectively.

Study conducted Nathu M, Joshi B, Sali N [6] in 1989 showed similar results having positive toxo-antibody titles in 19.44% of BOH cases. Also the study conducted by K.A. Yelikar and S.S. Bhat [5] from 1992-94 showed incidence of toxo-IgG positive in cases of BOH as 22.6% which is once again similar to our present study.

Earlier the registration in ANC-OPD ,earlier was the management started and hence better was the outcome this also required regular follow-up in ANC-OPD. 100% patients followed up in ANC-OPD after being diagnosed as having TORCH positive titers and paid minimum of three visits.

In this study the obstetric outcome of BOH cases was comparatively bad for those patients with TORCH positive titres Toxoplasmosis in this study was associated with 16.67% IgG positive and 20% of IgM positive pre-term deliveries,16.67% IgG positive stillbirths (FSB and MSB) respectively. Out of these pre-term deliveries two fetuses born to the mother with toxo-IgG titres had Hydrocephalus , one fetus had undeveloped eyes with anencephaly and one pregnancy was terminated for IUD. In this Study cases with Rubella positive titres were associated with 9.09% IgG positive pre-term deliveries, 4.55% IgG positive still birth and 22.73% IgG positive while 50% IgM positive spontaneous abortion. It indicates that the rate of spontaneous abortion was more in patients with Rubella positive titres. Similarly patients with CMV positive titers were associated with 11.11% IgG positive pre-term deliveries, 5.56% IgG positive stillbirth and 16.67% IgG positive spontaneous abortions. Also it was found that the cases with HSV positive titers were associated with 7.69% IgG positive pre-term deliveries and 7.69% IgG positive abortions.

This proves that the incidence of pre-term deliveries and congenital malformations was more in patients with toxo–positive titers while the incidence of spontenous abortions was more in patients with Rubella, CMV and HSV positive titres .

Of these 83 patients studied 28 patient had stillbirth in their previous pregnancy. Out of these 28 patients, 4 fetuses were having hydrocephalus ,one had omphalocele ,one had anencephaly and one had multiple congenital anomalies. These patients who had fetuses with congenital anomalies were screened for TORCH infection. It was found that two patients were having negative TORCH titers. One patients had positive titers for toxo-IgG, Rubella IgG and CMV IgG and one patient had positive titres for CMV and herpes simplex IgG antibodies. out of remaining 22 patients 6 patients with stillbirth had TORCH antibody titers positive. These patients with positive titres for toxo-antibodies were treated with antibiotics mainly spiramycin and rovamycin during their pregnancy and the outcome was good.

In the study Robertson Hingorani [8] et al (1960-1966) , incidence of abortions, stillbirths, premature deliveries and congenital malformations as compared to those of normal patients was found in patients with toxoplasma positive titres which is similar to our study. In the study of Berribi, M-Rolland [1] et al on 163 mothers with active toxoplasma infection during pregnancy, they concluded that the outcome of pregnancy was better when the patients were treated with antiparasitic treatment mainly spiramycin given orally. In the present study also the patient with toxo-titres positive were treated with spiramycin and rovamycin and the pregnancy outcome was good.

In the study conducted by Surendar Kaur, Jaspal Sing [10] et al (1994), it was found that pregnancy wastage in the form of abortion, stillbirths, preterm deliveries and congenital malformation was common in 22% patients with toxoplasma seropositivity. Similar incidence also found in the present study.

Seema Mehta, Sunil Jain [9] et al (1995), medical college, Jaipur, in their study, they found that 28% patients with recurrent pregnancy loss were toxoplasma positive and incidence of stillbirth and congenital malformation was 20%and 24% respectively. While in the present study the incidence of stillbirths was 16.67%, pre-term delivery 16.67% and 11.11% patient have congenital malformation in the form of hyrocephaalus.

In the study of Abdul Hamid [2] et al (2000) found that 39.34% patient have toxoplasmosis as the cause of pregnancy wastage .

In the study of Gordan C [4] et al (1971) found incidence of congenital malformation more common in patient with rubella infection in early week of pregnancy. In the present study, rubella positive cases were more associated with spontaneous abortion.

In the study of George A, Nankervis [3] et al (1983) the incidence of congenital malformation was more in patients with cytomegalovirus. In the present study also, it was found that the incidence of congenital malformation was 8.3% in patient with herpes simplex virus infection and 16% in cytomegalovirus infection.

Study of Katherine Donnar et al (1985-92) showed 20% incidence of cytomegalovirus infection in pregnancy with adverse outcome.

In the study of Forouzan et al (1992), they concluded that intra-uterine infection with cytomegalovirus infection could be diagnosed antenatally by ultrasound examination. In our study out of 18

positive cases, 5.56% cases showed abnormal USG findings.

In the study of Diana E., schendalet al (2001) and the article given in New England Medicine, 2 Sept. 1997. Infection of rubella and herpes simplex viruses during pregnancy were associated with congenital malformation pre-term deliveries and abortion, which were same in the present study.

Conclusion

We conclude that, all the patients with previous history of recurrent pregnancy miscarriage should be subjected to TORCH screening. If TORCH antibodies were positive then the patient should be explained about the adverse effects of TORCH infection on the fetus like congenital malformations, abortions, stillbirths and preterm deliveries, she should be counseled with her husband regarding continuation of pregnancy, treatment and outcome.

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