

Fetomaternal outcome in pregnancy following spontaneous abortion

¹Dr. Nupur Ghosh, ²Dr. Kajal Kumar Patra, ³Dr. Ankur Biswas, ⁴Dr. Kishore P Madhwani

¹Senior Resident, Department of Gynae and Obstetrics, Burdwan Medical College and Hospital, West Bengal, India

²Ex-Professor and Head, Department of Gynae and Obstetrics, Gouri Devi Institute of Medical Science, Durgapur, West Bengal, India (Corresponding author)

³Senior Resident, Department of Gynae and Obstetrics, Calcutta National Medical College and Hospital, West Bengal, India

⁴Senior Medical Consultant, Mumbai, Maharashtra, India

Abstract:

Background: Spontaneous pregnancy loss is a common event, it is the most common complication of pregnancy. About 70% of human conceptions fails to achieve viability and an estimated 50% are lost before the 1st missed menstrual period. **Aims and objectives:** The present study was done to study the fetomaternal outcome following spontaneous abortion. **Methods:** The present prospective study included patients with history of previous spontaneous abortion admitted in the Department of Obstetrics and Gynaecology, Burdwan Medical College and Hospital, Burdwan, West Bengal, India between January 2022 and December 2022. The patients were either booked (minimum 3 visits in antenatal outdoor clinic) or admitted for the first time as an emergency. The detailed history about previous abortions was taken and routine as well as investigations for possible etiologies of previous abortions were done. All the patients were observed for complications during present pregnancy. Statistical data were analysed by using Microsoft Excel and SPSS V.20 software. **Results:** Maximum patients belong to age group of 19-25 years i.e. 77 (72%) followed by 26-30 years 24 (24%). Mean age was 23.36 years. In the present study 66% patients belonged to urban areas and out of 100 patients 72 were booked and 28 un-booked. Placenta previa was present in 16% of mothers and placental abruption was present in 8% mothers. Pregnancy induced hypertension was present in 16% mothers. Induction of labor was present in 16% mothers cesarean section was present in 24% of mothers. Preterm delivery <32 weeks was 12% and <36 weeks were 20%. Low birth weight was present in 24% cases and Fetal growth restriction was present in 12% cases. **Conclusion:** From the study it was observed that patients with history of previous spontaneous abortion are associated with adverse pregnancy outcome. The pregnancy outcome in terms of maternal and foetal complications can be improved by giving proper antenatal care.

Keywords: Pregnancy, Spontaneous abortion, Preterm delivery, Still birth

Introduction:

Spontaneous pregnancy loss or miscarriage (abortion before 24 weeks of gestation) occurs in ~15% of pregnancies.¹ In India occurrence of spontaneous abortion in urban areas is high as compared to rural area.² The definite cause for previous spontaneous abortion cannot be found in about half of cases in spite of thorough investigations.³ The main causes for recurrent abortions include anatomical disorders, hormonal

abnormalities, genetic anomalies and thrombophilia.³

Previous abortion in a woman increases risk of threatened abortion, preterm delivery, and fetal loss.⁴ These factors have to be considered when deciding for antenatal close observations and management of pregnancy in patients with history of previous spontaneous abortions.⁴

The term miscarriage (abortion) is used to describe a pregnancy that fails to progress, resulting in death and expulsion of embryo or foetus. The generally

accepted definition speculate that the foetus or embryo should weigh 500grams or less, a stage that corresponds to gestational age of upto 20 weeks (WHO).⁵In India it has been observed that occurrence of spontaneous abortion is higher in urban than rural areas.⁶ According to American Pregnancy Association (APA), 10-25% of all clinically recognized pregnancy end in miscarriage. The cause of miscarriage varies from person to person and often the cause is unknown.⁷

Abortion has been suggested to be related to foetal pathology, congenital abnormality, low birth weight, low APGAR score, Down's syndrome in young mother, IUGR and preterm labour in next pregnancy.^{8,9}

Studies have reported a favourable outcome with 70-80% live births with counselling and supportive care in patients with previous spontaneous abortions.¹⁰

The present study aims to examine the fetomaternal outcome in patients with history of previous abortions.

Materials and Methods:

The present study was hospital based prospective study. The present study included 100 patients admitted in the Department of Obstetrics and Gynaecology, Burdwan Medical College and Hospital, Burdwan, West Bengal, India between January 2022 and December 2022.

Inclusion criteria: Patients with history of spontaneous abortion preceding present pregnancy irrespective of gravidity, first visit or booked were enrolled randomly in the study.

Exclusion criteria: Patients with no history of spontaneous abortion preceding present pregnancy were excluded.

Parameters Studied: Detailed history regarding previous abortion was taken and examination was done focussing on information about previous abortion. All the routine investigations along with investigation for possible etiologies of previous abortions were done. The patients were observed for complications like PROM, placenta previa, preeclampsia, placental abruption, abortion, IUFD, breech, threatened abortion, still birth during the present pregnancy.

In addition to routine investigation like Hb, ESR, TORCH, urine routine and microscopy, specific investigation like VDRL, blood urea, and fasting blood sugar were carried out. Each antenatal patient was vaccinated with tetanus toxoid in second trimester.

Data Analysis plan-The data was tabulated in Microsoft Excel software and analysed with SPSS V.20 software. P value <0.05 was considered as significant.

Ethical considerations- Study was initiated after obtaining the informed consents from the participants and ethical clearance from the institutional ethical committee.

Results:

The present study was hospital based prospective study. The study included 100 patients admitted in the Department of Obstetrics and Gynaecology, Burdwan Medical College and Hospital, Burdwan, West Bengal, India between January 2022 and December 2022. In all the cases, thorough history taking and clinical examination was done after taking proper consent. Data thus obtained was noted in the proforma. Results thus obtained were analysed and expressed in tables.

Table 1: Distribution of patients according to age (n=100)

Age	Frequency (n)	Percentage (%)
19-25	72	72
26-30	24	24
>30	4	4
Total	100	100

Maximum patients belong to age group of 19-25 years i.e. 77 (72%) followed by 26-30 years 24 (24%). Mean age was 23.36 years. (Table 1)

Figure 1: Distribution of mothers according to smoking habit (n=100)

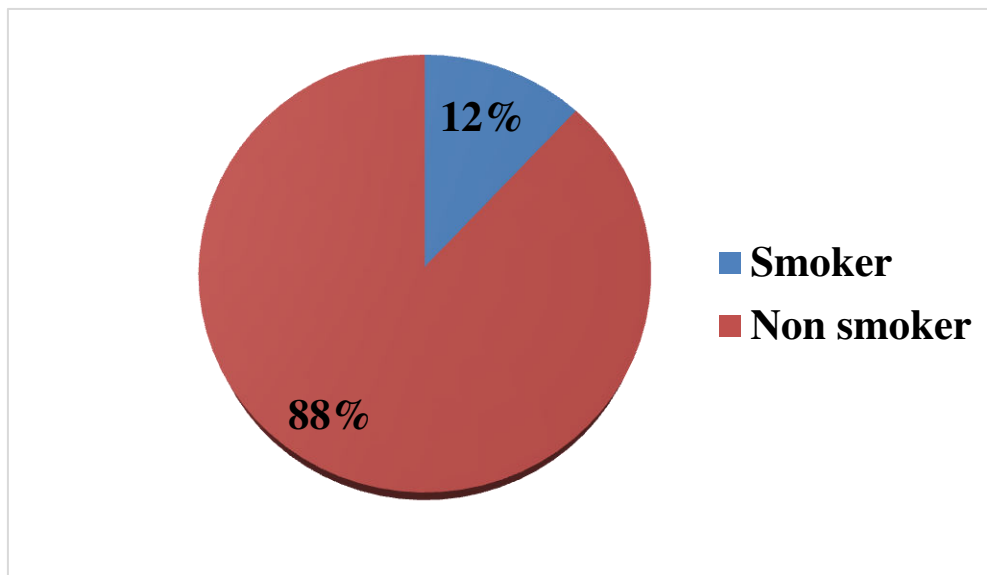


Figure 1 reveals that 12% mothers were smoker and 88% were non-smokers. (Figure 1)

Table 2: Distribution of patients according to place of residence and booking status (n=100)

Place of residence	Frequency (n)	Percentage (%)
Rural	34	34.0
Urban	66	66.0
Booking status		
Booked	72	72.0
Unbooked	28	28.0

In the present study 66% patients belonged to urban areas and out of 100 patients 72 were booked and 28 unbooked. (Table 2)

Table 3: Distribution of patients according to different parameters (n=100)

Parity	Frequency (n)	Percentage (%)	P value
Multi	25	25.0	> 0.05 (Non-significant)
Primi	75	75.0	
Previous history of LSCS			
0	76	76.0	< 0.05

1	16	16.0	(Significant)
2	8	8.0	
Previous history of vaginal delivery			
0	56	56.0	> 0.05 (Non-significant)
1	40	40.0	
2	4	4.0	
Ectopic pregnancy			
Yes	12	12.0	> 0.05 (Non-significant)
No	88	88.0	

Multi parity mothers were 25% and Primi parity others were 75%. Previous LSCS were maximum two in 8% of mothers and 1 on the 16% of mothers. Previous history of vaginal delivery were present in 2 cases 4% and 1 cases in 40%. Ectopic pregnancy was present in 12 (12%) of mothers. (Table 3)

Table 4: Distribution of patients according to maternal complications

Maternal complications	Frequency (n)	Percentage (%)	P value
Placenta previa	16	16.0	> 0.05 (Non-significant)
Placental abruption	8	8.0	< 0.05 (Significant)
Pregnancy induced hypertension (PIH)	16	16.0	> 0.05 (Non-significant)
Induction of labor (IOL)	16	16	> 0.05 (Non-significant)
Cesarean section (CS)	24	24	> 0.05 (Non-significant)

Placenta previa was present in 16% of mothers and placental abruption was present in 8% mothers. Pregnancy induced hypertension was present in 16% mothers. Induction of labor was present in 16% mothers cesarean section was present in 24% of mothers. (Table 4)

Table 5: Outcome of present pregnancy in patients with previous spontaneous abortion

Pregnancy outcome	Frequency (n)	Percentage (%)	P value
Preterm <32 weeks	12	12.0	< 0.05 (Significant)
Preterm <36 weeks	20	20.0	> 0.05 (Non-significant)
Low Birth Weight	24	24.0	> 0.05 (Non-significant)
Fetal growth restriction (FGR)	12	12	< 0.05 (Significant)

Preterm delivery <32 weeks was 12% and <36 weeks were 20%. Low birth weight was present in 24% cases and Fetal growth restriction was present in 12% cases. (Table 5)

Discussion:

The present study was aimed to study pregnancy outcome in 100 patients with history of previous spontaneous abortions.

In our study Maximum patients belong to age group of 19-25 years i.e. 77 (72%) followed by 26-30 years 24 (24%). Mean age was 23.36 years. 12% mothers were smoker and 88% were non-smokers. In the present study 66% patients belonged to urban areas and out of 100 patients 72 were booked and 28 un-booked.

In the study conducted by Sahu et al. 2014, where majority of abortions 34.3% were in the age group of 25-29.¹¹ In the study conducted by Muzaffar U et al. a total of 40 patients came to hospital first time and were unbooked and 100 were booked. Maximum patients were in the age group of 25-30 years, it being the most reproductive age group.¹²

Multi parity mothers were 25% and Primi parity others were 75%. Previous LSCS were maximum two in 8% of mothers and 1 on the 16% of mothers. Previous history of vaginal delivery were present in 2 cases 4% and 1 cases in 40%. Ectopic pregnancy was present in 12 (12%) of mothers.

Placenta previa was present in 16% of mothers and placental abruption was present in 8% mothers. Pregnancy induced hypertension was present in 16% mothers. Induction of labor was present in 16% mothers cesarean section was present in 24% of mothers.

It is well observed that risk of abortions increases with increasing number of previous pregnancy losses. History of abortion in previous pregnancy is a risk factor, atleast for psychological aspects.¹³ In our study there was an increased risk of pre Eclampsia in patients with previous abortion. Similar findings have been reported by Kashanian et al 2005.¹⁴

There is a controversy regarding the role of previous abortion on placenta previa in next pregnancy. Some studies suggest there is no relation between the two as reported by Abu-Heija AT et al. 1999.¹⁵ Other studies like Hendricks MS et al.¹⁶ Macones GA et al.,¹⁷ Ananth CV et al.¹⁸ Thom DH et al.¹⁹ have reported that multiple abortions are a risk factor for placenta previa. In our study 16% patients had placenta previa.

Previous abortion increases the risk of threatened abortion, preterm delivery and foetal loss. But some studies have shown otherwise.²⁰ Sheiner E et al. in their study demonstrated higher risk of

complications like abruption placenta, hypertensive disorders and caesarean section. Studies had shown a significant association between recurrent abortions and caesarean sections (CS) even after controlling the confounders.²¹

Preterm delivery <32 weeks was 12% and <36 weeks were 20%. Low birth weight was present in 24% cases and Fetal growth restriction was present in 12% cases.

Pregnancy outcome following spontaneous abortion was compared in one study showing that spontaneous miscarriage increases risk of congenital abnormalities, low APGAR at 1 minute low birth weight, threatened abortion and preterm delivery are increased.²²

To conclude, patients with previous history of spontaneous abortion are associated with adverse pregnancy outcome. The complications and fetal loss can be reduced by booking the patients and giving due antenatal care.

Conclusions:

Pregnancy with history of previous spontaneous abortion are associated with adverse pregnancy outcome, however the complications and foetal loss can be reduced by giving proper antenatal care.

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Conflict of interest:

None declared

Ethical approval:

The study was approved by the institutional ethics committee

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