

To Find Out the Incidence of Adverse Outcomes in Pregnancy Preceded By Spontaneous Abortion Compared to Those Preceded by Full Term Live Births: A Hospital Based Study

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ABSTRACT

Background: Spontaneous abortion may indicate a high risk of adverse outcomes in subsequent pregnancies. The aim of this study is to find out the incidence of adverse outcomes in pregnancy preceded by spontaneous abortion compared to those preceded by full term live births.

Materials & Methods: A hospital based cohort study done on 100 pregnant women attending department of Obstetrics and Gynaecology, Government Medical College, Pali (Rajasthan) who have a history of one spontaneous abortion preceding the current pregnancy. This cohort is compared with an equal number of women who have one full term live birth preceding the current pregnancy and no history of spontaneous abortions. Chi-square test was used to find the association between spontaneous abortion and adverse pregnancy outcomes.

Results: We observed that pregnancy complications like threatened miscarriage, PROM, preterm labour, IUGR, induction labour, & caesarean section were significantly higher in group A compared to the group B. There was no statistically significant difference between the two groups with regard to Diabetes mellitus, placenta praevia, preeclampsia, abruption and instrumental delivery.

Conclusion: We concluded that careful surveillance of women should be provided to given history of previous one spontaneous abortion and not to be restricted only to females with history of recurrent pregnancy loss.

Keywords: Spontaneous Abortion, Pregnancy, Risk Factors, Preeclampsia.

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INTRODUCTION

Pregnancy plays a unique role in the transformation of women towards completeness. Pregnancy should be considered a unique normal physiological episode in a woman's life. However in some cases many twists and turns occur which alter the good outcome of pregnancy into a disaster. For those women who have had a previous unsuccessful outcome, pregnancy may bring a lot of inevitable negative emotions.¹ Studies looking at subsequent pregnancy outcomes are difficult to compare because the definition of "miscarriage" varies widely with gestational ages ranging from 13-28 weeks.² National Centre for Health Statistics, Centres for Disease Control and prevention, and WHO define abortion as pregnancy termination prior to 20 weeks gestation or with a foetus born weighing less than 500 gm.³ Recurrent

miscarriages occur in only 1% of women. Despite their rarity, the effects of recurrent miscarriages on subsequent reproductive outcomes have dominated the literature. By contrast, a single miscarriage has not traditionally been perceived as a major clinical problem.⁴ Spontaneous abortion may indicate a high risk of adverse outcomes in subsequent pregnancies. Spontaneous abortion and adverse outcomes like low birth weight, small for gestational age, growth retardation and preterm labour share a common etiology (Eg; Immunological factors, low ratio of PGI₂/thromboxane in recurrent abortion, microthrombosis in placenta). The aim of this study is to find out the incidence of adverse outcomes in pregnancy preceded by spontaneous abortion compared to those preceded by full term live births.

MATERIALS & METHODS

A hospital based cohort study done on 100 pregnant women attending Department of Obstetrics and Gynaecology, Government Medical College, Pali (Rajasthan) who have a history of one spontaneous abortion preceding the current pregnancy. This cohort is compared with an equal number of women who have one full term live birth preceding the current pregnancy and no history of spontaneous abortions.

Inclusion Criteria

- All women who have one spontaneous abortion preceding the present pregnancy.
- All women who have one full term delivery preceding the present pregnancy

Exclusion Criteria

- Recurrent pregnancy loss (greater than or equal to 2)
- Multiple pregnancies
- Chronic hypertension
- Type II Diabetes Mellitus

Method of Collection of Data

Women who have a history of one spontaneous abortion preceding the current pregnancy were included in the study. The

risk factors studied are the incidence of low birth weight, small for gestational age, growth retardation and preterm delivery in this cohort.

The risk factors were compared with that of an equal number of women who have a history of one full term live birth and no spontaneous abortions preceding the current pregnancy.

Age of the mother and the interpregnancy intervals are also taken in to consideration in both these groups.

Preterm birth is defined as delivery before 37 completed weeks. Late preterm birth is defined as those between 34 to 36 weeks of gestational age. Low birth weight refers to birth weight less than 2,500 gms. All the babies born with birth weight less than 10th percentile for gestational age are considered as small for gestational age babies.

Interpregnancy interval is defined as the time frame from termination of the index pregnancy to the estimated date of conception of the outcome pregnancy leading to birth.

Statistical Analysis

Descriptive statistics was reported using number and percentages. Chi-square test was used to find the association between spontaneous abortion and adverse pregnancy outcomes.

Table 1: Comparison of pregnancy complications between two groups.

Pregnancy complication	Group A (N=50)		Group B (N=50)		P-value
	No.	Percentage	No.	Percentage	
Threatened Miscarriage	8	16%	4	8%	0.016
PROM	10	20%	3	6%	0.000
Preterm delivery	6	12%	2	4%	0.001
IUGR	4	8%	1	2%	0.038
Diabetes	2	4%	1	2%	1.000
Abruption	2	4%	0	0%	0.078
Placenta previa	1	2%	0	0%	0.065
Preeclampsia	2	4%	1	2%	1.000
Induction labour	18	36%	8	16%	0.000
Caesarean section	9	18%	5	10%	0.016
Instrumental delivery	2	4%	1	2%	1.000
PPH	3	6%	1	2%	0.022

RESULTS

We observed that pregnancy complications like threatened miscarriage, PROM, preterm labour, IUGR, induction labour, & caesarean section were significantly higher in group A compared to the group B. There was no statistically significant difference between the two groups with regard to Diabetes mellitus, placenta praevia, preeclampsia, abruption and instrumental delivery.

DISCUSSION

There have been various studies regarding association between spontaneous abortion and adverse birth outcome in subsequent pregnancy. However the results have been mixed.

We observed that pregnancy complications like threatened miscarriage, PROM, preterm labour, IUGR, induction labour, & caesarean section were significantly higher in group A compared to the group B. Bhattacharya et al. observed that an initial miscarriage is associated with a higher risk of obstetric

complications like pre-eclampsia, threatened miscarriage, induced labor, preterm delivery and low birth weight.⁵

Another study done by Pandey Kiran et al. to evaluated the predictive value of risk factors for spontaneous preterm labour identified previous abortions as one of the significant predisposing factors having an odds ratio of 14.14%.⁶

Our study showed no statistically significant difference between the two groups with regard to Diabetes mellitus, placenta praevia, preeclampsia, abruption and instrumental delivery. Kashanian M et al., found that the most pregnancy complications (including preterm birth, low birth weight etc.) following a previous spontaneous miscarriage were no different from those preceding a live birth.⁷

Astolfi P et al. in a study that looked at the risk of preterm delivery and its association with various factors found that maternal age seemed to be the most important factor contributing to an increased risk of premature babies.⁸

Weintraub AY et al. conducted a study to determine whether one previous miscarriage was associated with an increased rate of adverse pregnancy outcomes in the following pregnancy. Multivariable analysis showed a significant association between a previous miscarriage and the various adverse pregnancy outcomes including preterm delivery (Odds ratio of 1.34 at 95% confidence interval).³ Swingles et al. based on a study conducted in 2009 concluded that spontaneous abortion is associated with increased odds ratio for preterm birth in subsequent pregnancy.⁹

CONCLUSION

We concluded that women given history of previous one spontaneous abortion are at an increased risk of complications in the next pregnancy. So careful surveillance should be provided to such women and not to be restricted only to females with history of recurrent pregnancy loss.

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