

Pregnancy outcome in patients with first trimester vaginal bleeding: an observational studySonal^{1*}, Anjana Sinha², Geeta Sinha³¹Junior Resident, Department of Obstetrics and Gynecology, Patna Medical College and Hospital, Patna, Bihar, India²Associate Professor, Department of Obstetrics and Gynecology, Patna Medical College and Hospital, Patna, Bihar, India³Professor, Department of Obstetrics and Gynecology, Patna Medical College and Hospital, Patna, Bihar, India

Received: 20-08-2020 / Revised: 23-09-2020 / Accepted: 14-10-2020

Abstract

Aim: This study was conducted to assess the maternal and perinatal outcome in pregnant women who present with first trimester vaginal bleeding. **Materials & Methods:** This prospective observational study was carried out in the department of Obstetrics and Gynecology at Patna Medical College and Hospital, Patna Bihar, India from November 2017 to October 2018. All women with vaginal bleed in first trimester of pregnancy (pregnancy was confirmed chemically and ultrasonologically) were studied. **Results:** In this study, 200 women with vaginal bleeding in the first trimester of their pregnancy were studied. The mean (\pm SD) of birth weight was 3025 \pm 369 gram in babies of studied women. The mean (\pm SD) of gestational age at the end of pregnancy was 272 \pm 14 day in studied women. In women the pregnancy termination due to premature labor was 27%, followed by placental abruption in 11% and 16% patients had no complication. Normal vaginal delivery was 30% and Caesarean section was 35%. Among 200 women, 170 ended the pregnancy successfully. **Conclusions:** Considering the results of present study, first trimester bleeding can be a predicting factor in terms of consequence of pregnancy and it is necessary to increase the knowledge of pregnant women in this regard for closer care. Also, because the clinical interventions of attending doctor has an important role in not only the continuance of pregnancy but also reducing the fetal complications in these high risk pregnancies. Precise management and planning by the obstetrician is required.

Keywords: First trimester bleeding, Pregnancy outcome, Vaginal bleeding.

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Introduction

The first trimester of pregnancy is a dynamic period that spans ovulation, fertilization, implantation and organogenesis. Vaginal bleed in early pregnancy represents a definite threat to developing embryo and constitutes a source of anxiety to both the patient and the clinician. Vaginal bleed during first trimester has been estimated to occur in 16 to 25% of all pregnant women.^{1,2} A spectrum of causes for first trimester bleed has been identified ranging from threatened abortion, complete abortion, incomplete abortion, missed abortion

, gestational trophoblastic disease, ectopic gestation. It is also one of the common causes of emergency admissions to the obstetrical department and common reason for ultrasound in 1st trimester.³ Hence complications occurring during this period pose a diagnostic and management challenge to the obstetrician.

Meta-analysis indicate that vaginal bleeding is associated with two-fold increased risk of other complications during pregnancy.⁴ In the first trimester pregnancy, complicated by bleed, less than 50% progress normally beyond 20 weeks of gestation, 10-15% will be ectopic pregnancy, 0.2% will be a mole and 30% miscarry. Approximately 5% of women elect to terminate the pregnancy. About 15% of pregnancies are complicated by threatened miscarriage. Threatened abortion has been shown to be associated with an increased risk of poor obstetric outcomes such as

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preterm labour, low birth weight and premature rupture of membranes. Although few studies have evaluated outcomes other than viability at term, most agree that adverse pregnancy outcome is associated with first trimester vaginal bleed. The outcome of ongoing pregnancies after first trimester bleeding is of relevance to women and obstetricians for planning antenatal care and clinical interventions in pregnancy. Definitive diagnosis of first trimester vaginal bleeding is necessary to save the life of the pregnant patient especially in the pathological conditions like ectopic, if not promptly diagnosed can lead to torrential bleed that can end the life of mothers.

The important diagnostic action in patients with first trimester vaginal bleeding after confirmation of positive pregnancy test is transvaginal sonography to identify normal or pathological condition to provide early intervention.^{5,6} Hence this study was conducted to identify the risks associated with first trimester bleed which may facilitate decision making regarding mode, place and timing of delivery during management, which may improve maternal and neonatal outcome. The aim of the present study was to assess the maternal and perinatal outcome in pregnant women who present with first trimester vaginal bleeding.

This prospective observational study was carried out in the department of Obstetrics and Gynecology at Patna Medical College and Hospital, Patna, Bihar, India from November 2017 to October 2018, after taking the approval of the protocol review committee and institutional ethics committee.

All women with vaginal bleeding in first trimester of pregnancy whose pregnancy was confirmed chemically and ultrasonologically were studied. Women with chronic medical complications including diabetes and hypertension and women with a history of infertility were excluded from the study and after taking a written informed consent, patients were kept under surveillance until delivery and the consequence of pregnancy was evaluated by close observation on the process of pregnancy and prenatal care. Sonography was performed for all women in the 8-10 weeks interval. The women were visited every two weeks in the first 6 months of pregnancy, weekly in the 7th and 8th months and two times per week in the last month of pregnancy.

The age of pregnancy at the time of bleeding, the volume of bleeding, the history of previous pregnancies, the co-existing diseases, the length and duration of pregnancy and the birth weight were recorded.

Material and methods

Results

Table 1: Obstetrical characteristics of studied women (n= 200)

Variables		N (%)
Age (In Year)	18-25	60 (30%)
	25-35	110 (55%)
	>35	30 (15%)
Bleeding volume in current pregnancy	Spotting	10 (5%)
	Moderate	150 (75%)
	High	40 (20%)
Parity	0	120 (60%)
	1	50 (25%)
	2	20 (10%)
	>2	10 (5%)
History of bleeding in previous pregnancies	Yes	70 (35%)
History of abortion	Yes	30 (15%)
Total		200 (100.0%)

Table 2: Obstetrical complications in women with first trimester vaginal bleeding

Complications	N (%)
Preterm labor	54 (27%)
Premature rupture of membrane	18 (9%)
Placental abruption	22(11%)
Intrauterine death	3 (1.5%)
Intrauterine growth retardation	1 (0.5%)
No Complication	32 (16%)

Table 3: Pregnancy outcome in women with first trimester vaginal bleeding

Outcome	N (%)
Abortion	46 (23%)
Termination of pregnancy	24 (12%)
Normal vaginal delivery	60 (30%)
Caesarean section	70 (35%)
Minute 5 APGAR score < 7	24 (12%)
Admission in NICU	30 (15%)

Discussion

In this study, 65% of pregnant women with first trimester vaginal bleeding continued their pregnancy which shows more than half of these women terminated their pregnancy successfully.

In the Snell et al.'s study it is demonstrated that vaginal bleeding occurs among 15-25% of pregnancies and half of them continue their pregnancy.^{7,8} Three major reasons for first trimester bleeding are spontaneous abortion, ectopic pregnancy and trophoblastic diseases in pregnancy. In the study of Dogra et al. ,it is reported that the most common causes for first trimester bleeding are abortion and ectopic pregnancy and there were observable genetic disorders in more than 50% of spontaneous abortions.⁹ In this study, the evaluation of uterus and pregnancy sac by ultrasound was considered as the first necessary action for diagnosis of the cause of bleeding. The studies of Deutchman et al. (2009) and Thorstensen et al. (2000) reported that in pregnancies with first trimester bleeding the most important diagnostic actions include transvaginal ultrasound and evaluating the rise of serum level of β HCG.^{10,11}

In the different studies such as Saraswat et al.'s and Siddiqui's, there has been demonstrated that women with bleeding in the first trimester of pregnancy, more frequently developed bleeding in the second and third trimesters due to the probability of placenta praevia, placenta disruption and bleeding with unknown place.^{12,13} In some studies, it has been demonstrated that

the probability of premature rupture of fetal membranes in the women with first trimester bleeding is about 2 to 4 times higher than others.¹²

Several studies such as Weiss et al.'s showed that abortion, premature delivery and placenta disruption are the most common complications of first trimester bleeding in the pregnancy which is in concordance with present study.¹⁴

Saraswat et al. performed a systematic- review and demonstrated that first trimester bleeding has no effect on route of delivery.¹² But some other studies have shown that possibility of cesarean section in women with bleeding is more than that of others and this corresponds to the result of my study.

With regard to previous studies, it is apparent that due to several disorders of placenta in the pregnant women with first trimester bleeding, the length of pregnancy in these women is less and the possibility of premature delivery is more.¹⁴ In other words, such pregnancies developed growth failure and newborn has low birth weight due to premature delivery.¹⁵ Many studies agreed with low birth weight of newborns and Apgar of 5 minute less than 7 in pregnancies with first trimester bleeding but various results are reported about mortality rate of newborns.^{15,16}

In the study of Yasae et al. that was performed on 161 patients with vaginal bleeding during a period of 10 years in the Taleghani hospital, tehran, the average age of pregnancy was 16.3 weeks.¹⁷

The limitation of this study is the determination of the intensity; amount and frequency of bleeding that appear to be effective factor at the end of pregnancy.

Conclusion

Considering the results of present study, the first trimester bleeding can be a predicting factor in the consequences of pregnancy and it is necessary to increase the knowledge of pregnant women in this regard for closer care. Also, because the clinical interventions of attending doctor has important role in not only the continuance of pregnancy but also reducing the fetal complications in these high risk pregnancies by precise management and planning.

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Source of Support: Nil;

Conflict of Interest: Nil