

A Prospective Observational Assessment of Maternal and Perinatal Outcomes in Women with First Trimester Vaginal Bleeding

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Aim: This study was conducted to assess the maternal and perinatal outcome in pregnant women who present with first trimester vaginal bleeding.

Methods: This prospective observational study was carried out in the Department of Obstetrics and Gynaecology, JLNMC, Bhagalpur, Bihar, India for 14 months, all women with vaginal bleeding in first trimester of pregnancy whose pregnancy was confirmed chemically were studied.

Results: In this study 200 women with vaginal bleeding in the first trimester of their pregnancy were studied. All women with other causes of termination of pregnancy were in the range of 25-35 years of age. The frequency of the most important obstetrical complications in women with first trimester vaginal bleeding. 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 11% and 16% patients had no complication. spontaneous abortion in recent pregnancy, 23% had a major systemic disease and 12% Termination of pregnancy. 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 and first trimester bleeding can be a predicting factor in terms of mother and infant consequences of pregnancy and it is necessary to increase the knowledge of pregnant women in this regard for closer care. Also, because the clinical intervention of attentive physician has 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 physicians 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 first trimester pregnancies Complicated by bleed less than 50% progress normally beyond 20 weeks of Gestation, 10-15% will be ectopic pregnancy, 0.2% will be a hydatidiform 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 preterm labour, Low birth weight and premature rupture of Membranes. Moreover, when pregnant - women have bleeding, it may cause stress and anxiety for the mother to be about the outcome of pregnancy. This can be a difficult time for women because of uncertainty of outcome, lack of preventive measures and emotional significance of early pregnancy loss. 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 firmest 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 poor mothers.

The important diagnostic action in patients with first trimester vaginal bleeding after confirmation of positive pregnancy test is Transvaginal sonogram 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 objective of the present study was to assess the maternal and perinatal outcome in pregnant women who present with first trimester vaginal bleeding.

Material and methods

This prospective observational study was carried out in the Department of Obstetrics and Gynaecology, JLNMCH, Bhagalpur, Bihar, India for 14 months, after taking the approval of the protocol review committee and institutional ethics committee.

Methodology

All women with vaginal bleeding in first trimester of pregnancy whose pregnancy was confirmed chemically were studied. Women with chronic medical complications including diabetes and hypertension and women with a history of infertility or missed obstetrical history 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 intervals. The women were visited every two weeks in the first 6 months of pregnancy, weekly in the 7th and 8th months as weekly and two times per week in the last month of pregnancy.

The age of pregnancy at the time of bleedings, 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.

Results

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

Variables		N=200 (%)
Age(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%)

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

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

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

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

In this study 200 women with vaginal bleeding in the first trimester of their pregnancy were studied. The obstetrical characteristics of patients are summarized in table 1.

In this study, there was no correlation between the result of pregnancy and the

gestation age at the time of bleeding. In the women whose pregnancies were terminated due to the diagnosis of ectopic pregnancy (EP) 30% were 18-25 years and 60% of them were 25-35 years of age. All women with other causes of termination of pregnancy were in the range of 25-35 years

of age. Table 2 shows the frequency of the most important obstetrical complications in women with first trimester vaginal bleeding. In the women who continued their pregnancy, 60 % were parity 0, 25% were 1 and 10% were 2. There was a significant correlation between termination of pregnancy and the number of previous pregnancies. The mean (\pm SD) of birth weight was 3025 ± 369 gram in babies of studied women. The mean (\pm SD) of gestational age at the end of pregnancy was 272 ± 14 day in studied women. In women the pregnancy termination due to premature labor was 27%, followed by Placental abruption 11% and 16% patients had no complication. Spontaneous abortion in recent pregnancy, 23% had a major systemic disease and 12% Termination of pregnancy. Normal vaginal delivery was 30% and Caesarean section was 35%

Among 200 women, 170 ended the pregnancy successfully. Totally 14% of them developed pregnancy diabetics during the pregnancy and 26.9% developed hypertension. The other complications of pregnancy are shown in the table 3.

The duration of pregnancy in 20% of women with first trimester vaginal bleeding was between 42-37 weeks, in 75% of them was between 37-20 weeks. Excluding the cases of abortion, the birth weight in 170 newborns was as follow: 4% had weight more than 3500 gr, 68% were between 2500-3500 gr and % 28 was less than 2500 gr.

Discussion

In this study 65% of pregnant women with first trimester vaginal bleeding continued their pregnancy that 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, EP and trophoblastic diseases in the pregnancy. In the study of Dogra et al. it is reported that the most common causes for first semester bleeding are abortion and EP, 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 Thorsten Sen et al. (2000) reported that in pregnancies with first trimester bleeding the most important diagnostic actions include transvaginal ultrasound and evaluating the rising of serum level of β HCG [10,11].

In the different studies such as Saraswati 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 rout of delivery [12]. But some other studies have shown that possibility of cesarean section in women with bleeding is more than others. The results of our study show the same status.

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 the other word, 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 years bleeding in bihar region the average age of pregnancy was 16.3 weeks [17].

Conclusion

Considering the results of present study and first trimester bleeding can be a predicting factor in terms of mother and infant consequences of pregnancy and it is necessary to increase the knowledge of pregnant women in this regard for closer care.

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