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Original Research Article

A study on pregnancy outcome in patients with first trimester vaginal bleeding

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ABSTRACT

Background: Vaginal bleeding is a common obstetric problem and a cause of anxiety and worry both to patients and the Obstetrician. The common cause of bleeding in 1st trimester include various types of abortion, ectopic pregnancy and molar pregnancy. This study was conducted to assess the maternal and perinatal outcome in pregnant women who present with first trimester vaginal bleeding.

Methods: A Prospective study (Longitudinal study) among pregnant women presenting with First trimester bleeding was conducted for a period from November 2017 to Jan 2019 at Mysore Medical College and Hospital 200 subjects were included into the study by Multiphasic sampling method using a structured questionnaire to collect the data.

Results: The study observed that among 200 subjects who were included in the study 123 (61.5%) were non-viable pregnancy and 67 (38.5%) were viable pregnancy. Among 67 viable pregnancy only 30 (47%) had no obstetrical complications, 11 (17.1%) aborted and others had problems of PROM, Preterm labour, Placenta previa, IUGR and IUD.

Conclusions: It can be concluded that first trimester bleeding is a predicting factor for obstetric and perinatal complications during pregnancy. Hence it is necessary to increase the knowledge of pregnant women in this regard for closer care. It is also important factor for clinician to be attentive towards first trimester bleeding in providing clinical interventions for the continuation of pregnancy and also reducing the fetal complications in these high-risk pregnancies.

Keywords: First trimester bleeding, Pregnancy outcome, Vaginal bleeding

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.

METHODS

A prospective study (longitudinal study) among pregnant women presenting with First trimester bleeding was conducted for a period from November 2017 to Jan 2019 at Mysore Medical College and Hospital.

Inclusion criteria

- All the women with vaginal bleeding in 1st trimester of pregnancy whose pregnancy was confirmed by urine pregnancy test.

Exclusion criteria

- All non-obstetrics cause of vaginal bleeding
- All patients >12 completed weeks

- Pregnant women with chronic medical complications like diabetes, hypertension was excluded from the study.

Sample size

Sample size was estimated based on the 34% abortion rate from the study by Zhila Amirkhani et al.³ At 10% error and 99% Confidence interval sample size was 149 and expecting 10% nonresponse rate sample size was 149 + 15 = 164 cases. Were as during the study period around 200 cases were encountered who fulfilled the inclusion criteria and they were included in the study and followed up. Formula used to estimate sample size:

$$N=1.962 p (1-q)/d^2$$

Sampling method

Multiphasic sampling method was used to collect the data.

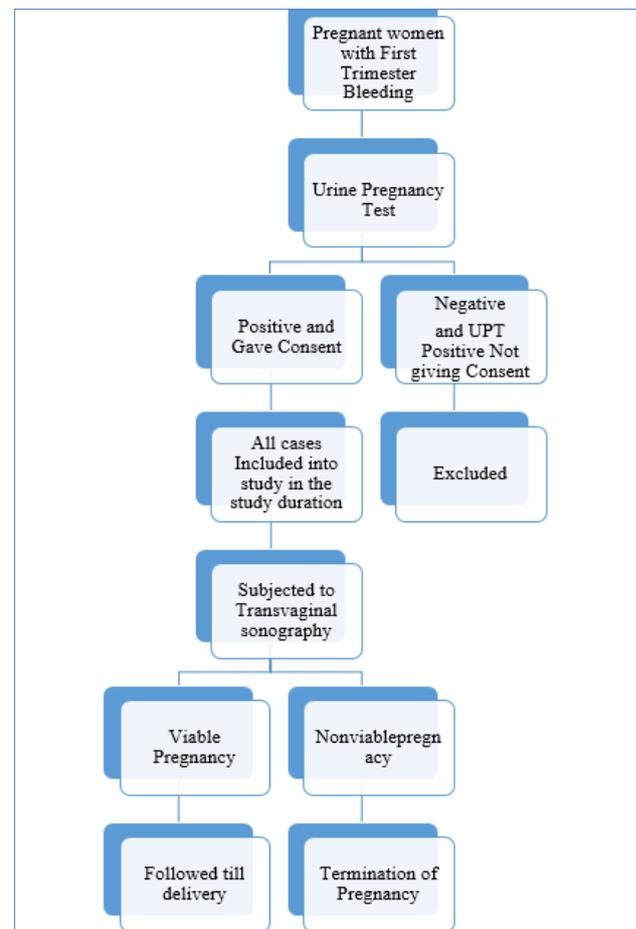


Figure 1: Multiphase sampling for selection of cases.

Method of collection of data

Pregnant women with First trimester bleeding were evaluated by clinical history and examination and later

subjected to Urine pregnancy testing. Eligible candidates were selected after the exclusion criteria and informed consent was taken from them for participating in the study. All the women fulfilling the inclusion criteria and gave informed consent during June 2010 to Jan 2012 were included in to the study by multiphasic sampling method. Later these subjects were subjected to Transvaginal sonogram and were divided into 2 groups:

- Non-viable pregnancy
- Viable pregnancy.

Those with nonviable pregnancy was terminated, patient with ectopic underwent definitive treatment and patients with molar gestation underwent suction and evacuation. Those patients with viable pregnancy were followed with regular antenatal check up every 15 days till 32 weeks and weekly thereafter.

Later the outcome of pregnancy was assessed in the form of obstetrical complications like placenta previa, PROM, preterm labour, IUD and perinatal outcome like prematurity, low birth weight, low APGAR, NICU admission, perinatal mortality.

RESULTS

Majority of subjects were in the age group 21 to 25 years (40%), 60% were multigravida and 40% were primigravida, 55% were from rural areas (Table 1).

Table 1: Social profile of the study subjects.

Parameters		No. of patients (n=200)	%
Age (years)	18-20	25	12.5
	21-25	80	40
	26-30	60	30
	31-35	35	17.5
Parity	Primigravida	80	40
	Multigravida	120	60
Place	Urban	90	45
	Rural	110	55

In the study among 200 subjects 64 (32%) had viable pregnancy in USG and threatened abortion and they were followed up. 136 (68%) had Non-viable pregnancy.

Table 2: Outcome of pregnancy among the pregnant women with first trimester bleeding.

USG finding	Pregnancy outcome	No. of cases (n=200)	%
Viable pregnancy	Threatened abortion	64	32
Non-viable pregnancy	Abortion	123	61.5
	Ectopic gestation	8	4
	Molar gestation	5	2.5
	Total	200	100

Among Non-viable pregnancy 123 aborted, 5 had molar gestation and 8 had ectopic gestation which were terminated (Table 2). In the study it was observed that among 64 subjects with viable pregnancy, 67% had term delivery, 15.6% had preterm delivery and 17.2% had abortion during the follow up. Among 53 subjects who delivered 81% delivered by normal vaginal delivery and 19% by lower caesarian section (Table 3).

Table 3: Pregnancy outcome among pregnant with viable pregnancy.

Pregnancy outcome		No. of cases	%
Outcome of delivery	Term delivery	43	67
	Preterm delivery	10	15.6
	Abortion	11	17.2
Type of delivery	Normal delivery	43	81
	Caesarian section	10	19

When bleeding pattern was observed among non-viable and viable pregnancy. Moderate and Severe bleeding was more commonly associated with Non-Viable pregnancy (32% and 24% respectively). Spotting was commonly associated with Threatened abortion (62.5%). Hence there was statistically significant association between Bleeding and Type of Abortion.

Among subjects with threatened abortion few of them had 2-3 episodes of spotting in the subsequent trimester also. But none of them had adverse perinatal outcome. All had live born child.

Patient with molar gestation and ectopic presented with moderate amount of flow. Those with heavy bleeding 15.7 % (n=10) in first trimester continued to bleed in 2nd trimester also and all 10 patients ended up in miscarriage. Those with moderate bleeding during the 1st trimester continued to bleed on and off subsequently and had significant complications namely LBW, Placenta Previa, PROM, Preterm labor, IUGR, IUD, perinatal mortality (Table 4).

Table 4: Pattern of bleeding among subjects with non-viable pregnancy and threatened abortion.

Bleeding pattern	Non-viable pregnancy (n=136)	%	Viable pregnancy (n=64)	%
Spotting	60	44	40	62.5
Moderate	44	32	14	21.8
Severe	32	24	10	15.7
Total	136		64	

X²=5.884, df =2, p < 0.05

Pregnant women with complete abortion and threatened abortion (n=85) were managed conservatively. Pregnant with complete abortion were discharged with haematinics and those with threatened miscarriage (n=64) were managed conservatively with restricted activity, regular prenatal care. Patient with incomplete abortion (n=28),

inevitable abortion (n=7), molar gestation (n=5) and few patients with missed miscarriage (n=18) underwent suction and evacuation. Rest of the patient (n=49) with missed abortion had dilatation and curettage done. Patient with ruptured ectopic (n=5) underwent laparotomy and simultaneous resuscitation, and those with unruptured ectopic underwent laparoscopic salpingectomy (Table 5).

Table 5: Ultrasound findings in pregnant women with first trimester vaginal bleeding.

USG features	No. of patients (n=200)	%
Gestational sac	132	66
Fetal pole	96	48
Fetal cardiac activity present	64	32
Sub chorionic hemorrhage	36	18
Low placenta	11	5.5
Ectopic pregnancy	8	4
Molar pregnancy	5	2.5

Pregnant women with complete abortion and threatened abortion (n=85) were managed conservatively. Pregnant with complete abortion were discharged with haematinics and those with threatened miscarriage (n=64) were managed conservatively with restricted activity, regular prenatal care (Table 6).

Table 6: Management of pregnant women with first trimester vaginal bleeding.

Management	No. of cases	%
Conservative	85	42.5
Suction and evacuation	58	29
Dilatation and curettage	49	24.5
Laparotomy	5	2.5
Laparoscopy	3	1.5
Total	200	100

Patient with incomplete abortion (n=28), inevitable abortion (n=7), molar gestation (n=5) and few patients with missed miscarriage (n=18) underwent suction and evacuation. Rest of the patient (n=49) with missed abortion had dilatation and curettage done. Patient with ruptured ectopic (n=5) underwent laparotomy and simultaneous resuscitation, and those with unruptured ectopic underwent laparoscopic salpingectomy.

DISCUSSION

In the present study it was observed that 70% of them were in the age group 21 to 30 years and 60% were multigravidas and perhaps the reason is that majority of delivery also occur in this age group. Previous history of abortion was observed among 46 (38.3%) of multigravida subjects, of which 36.9% had viable pregnancy and 63.1% had non-viable pregnancy. In the study done by Zhila Amir Khani et al also observed similar pattern of observations, that among pregnant women with first

trimester bleeding 53.3% were in the age group 25 to 35 years.³ 15% had history of previous abortion and 33.3% had previous history of bleeding during pregnancy. Spotting was observed in 3.3%, moderate bleeding was observed in 73.3% and severe bleeding was observed in 23.3%. Reem Hasan et al in there study also observed similar pattern that majority of subjects were in the age group 28 to 34 years (45.9%), 34.8% were primipara and 17.7% were multipara. Spotting was seen in 75.6% of subjects, light bleeding in 18.4% and 6.1% had heavy bleeding.⁷

Basama FM et al in their study observed that parity, previous miscarriage, the amount and number of episodes of vaginal bleeding seem to have no influence in the rate of miscarriage. Similarly, in the present study there was no significant association between previous bad obstetric history and bleeding.⁸ In the present study 64 (32%) had viable pregnancy in USG and were labelled as threatened abortion and they were followed up for the outcome. 136 (68%) had Non-viable pregnancy. In the study by Dogra et al it was reported that three major reasons for first trimester bleeding are abortion, EP and trophoblastic diseases in the pregnancy.⁹

In the present study, the evaluation of uterus and pregnancy sac by ultrasound was considered as the first necessary action for diagnosis of the cause of bleeding. All the pregnant patients with h/o vaginal bleeding in the first trimester underwent Transvaginal sonogram. Gestational sac was observed in 66% of subjects, Fetal pole in 48% of subjects, Fetal cardiac activity was present in 32%, Sub chorionic hemorrhage was observed in 18%, Low placenta was observed in 5.5%, Ectopic pregnancy was seen in 4% and Molar Pregnancy was seen in 2.5%.

The studies of Deutchman et al. and Thorstensen et al. 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.^{5,6} Aziz S, Cho RC, Bater DB concluded that in pregnant with Vaginal bleeding, embryos of 5 mm and smaller without a heartbeat all resulted in pregnancy failure.¹⁰ After sonography of pregnancies with first trimester bleed and a small intrauterine gestational sac without a demonstrable embryo Falco P, Zagonari S, Gabrielli S, found that in cases with threatened abortion demonstration by transvaginal sonography of an intrauterine gestational sac <16mm without an embryo may be compatible with a viable pregnancy.¹¹ They suggested that this finding was associated with a poor outcome, with miscarriage occurring in two thirds of patients.

CONCLUSION

Hence considering the results of present study, it can be concluded that first trimester bleeding is a predicting factor for obstetric and perinatal complications during pregnancy. Hence it is necessary to increase the

knowledge of pregnant women in this regard for closer care. Especially for those who had previous bad obstetric history and also initiation of early antenatal care for Primigravida for early recognition of high-risk cases. It is also important factor for clinician to be attentive towards first trimester bleeding in providing clinical interventions for the continuation of pregnancy and also reducing the fetal complications in these high-risk pregnancies. Knowledge of this increased risk may also facilitate decision making regarding management, mode, place and time of delivery which will inevitably improve pregnancy outcome.

Recommendations

The study recommends for counseling of the women with first trimester vaginal bleeding, especially with previous bad obstetric history and threatened miscarriage. Proper antenatal care and follow up has to be given to women who present with first trimester bleeding. To clinician it recommends having high suspicion towards first trimester bleeding and to evaluate them with USG for diagnosis and better management of subjects.

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