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ORIGINAL RESEARCH

Pregnancy Outcomes in Patients with Bleeding Per Vagina in First Trimester: a Retrospective Observational Study

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ABSTRACT

Background: Bleeding p/v is a threat or a warning sign for continuation of present pregnancy, which can be converted into a normal pregnancy by early detection and intervention by means of modern and sophisticated diagnostic and threatened aids. Bleeding has been related to preterm birth, low birth weight, and small for gestational age infants.

Methods: All pregnant females who delivered or underwent miscarriage at Teerthankar Mahaveer Medical College & Research Centre, Moradabad and had history of bleeding per vagina in first trimester of pregnancy were taken into the study after fulfilling inclusion and exclusion criteria. Objective was to determine pregnancy outcome in pregnancy complicated with first trimester bleeding.

Results: Out of 190 subjects, maximum were from age group of 20-25 years (39%). 68% of the subjects were multigravida. Spotting and heavy bleeding was reported among 89.61% and 30.43% of the subjects in viable group and 10.39% and 69.57% in nonviable group respectively. Etiology w.r.t. nonviable pregnancy was missed abortion (69.57%), subchorionic hematoma (8.7%), complete abortion (13.04%) and IUFD (8.7%) as revealed by USG. Total 146 patients continued pregnancy beyond first trimester of which 2% patients had in 2nd trimester abortion; 13% patients had preterm labor and 5% had premature rupture of membranes. PIH was found in 6% patients. Pregnancy till term was taken in 72% cases. 36.1 % babies required NICU care whose APGAR score was less than 7.

Conclusion: Bleeding per vaginum in the first trimester is a threat or warning sign for continuation of present pregnancy. It is commonly associated with obstetric complication like PROM, preterm delivery and PIH. The common fetal complication includes subchorionic hematoma and IUFD.

Keywords: 1st trimester bleeding, Spotting p/v, Nneonatal outcome.

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INTRODUCTION

First trimester bleeding per vaginum (p/v) is a matter of great concern to a large group of obstetric population. Bleeding p/v is a threat or a warning sign for continuation of present pregnancy, which can be converted into a normal pregnancy by early detection and intervention by means of modern and sophisticated diagnostic and threatened aids.[1,2] Management of bleeding p/v has been revolutionized during last decades. Now more and more threatened abortion are managed favorably and so that incidence of abortion is decreased remarkably compared to past.[3]

Bleeding has been related to preterm birth, low birth weight, and small for gestational age infants. Inconsistent results have been reported in relation to bleeding and congenital malformations.[4,5] These studies are limited by focusing on bleeding episodes that come to clinical attention or bleeding episodes that are reported late in pregnancy or after delivery. Such methodologic differences result in widely varying baseline bleeding prevalence in these studies (7 to 24%), making it difficult to compare results.[6,7]

Diagnosis is made depending upon the history, general condition of the patient and investigations like maternal blood and urine levels of hormones like progesterone, HCG and ultrasound. Ultrasonography is a safe and non-invasive diagnostic technique, which helps in timely diagnosis of threatened abortion. So, it should be done as a routine investigation in all patients with complain of bleeding p/v in first trimester. It gives a clue of viability or non-viability of pregnancy.[5,6]

First trimester bleeding is one of the common problems in pregnancy and it is important that we should have better knowledge in outcome of the pregnancies those had an experience of first trimester vaginal bleeding. This study is for understanding the pregnancy outcome in the patients who had an experience of first trimester bleeding

MATERIAL & METHODS

Study Type and Settings: The present retrospective observational study was conducted among all the pregnant women with history of vaginal bleeding in the first trimester with diagnosed intrauterine pregnancy who were admitted in the department of Obstetrics & Gynaecology at Teerthanker Mahaveer medical college and research center, Moradabad. Data was collected from case records of all patients who delivered with us or underwent miscarriage between 1st December 2021 to 1st December 2022.

Study Sample Size 190

Inclusion Criteria

All pregnant women with bleeding per vagina in first trimester with intrauterine pregnancy.

Exclusion Criteria

1. Patients with bleeding per vagina following MTP.
2. Bleeding tendencies.
3. History of mechanical trauma during the present pregnancy.
4. Patients with ectopic or molar pregnancy.

Procedure

All pregnant females who delivered or underwent miscarriage at Teerthankar Mahaveer Medical College & Research Centre, Moradabad and had history of bleeding per vagina in first trimester of pregnancy were taken into the study after fulfilling inclusion and exclusion criteria. Objective was to determine pregnancy outcome in pregnancy complicated with first trimester bleeding.

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Data was recorded from the registered records w.r.t. complaints including colour, amount duration of bleeding Per Vaginum, associated with abdominal pain. Detailed history and examination findings were noted. Blood investigations and ultrasonography reports of patients were assessed. Different management protocols and pregnancy outcomes were analysed accordingly depending on the ultrasound and clinical features. During that period they were watched for different complications like absent fetal viability, missed abortion, threatened miscarriage, incomplete miscarriage and complete miscarriage. Patients who delivered with us were assessed for PPROM, PROM, pregnancy induced hypertension, preterm labour, antepartum haemorrhage, placenta previa, morbidly adherent placenta etc. and this data was collected and analysed.

The patients who bled heavily and who were taken up for curettage were also analysed accordingly.

Data was collected and subjected to statistical analysis using SPSS software version 24.

Statistical analysis: Data so collected was tabulated in an excel sheet, under the guidance of statistician. The means and standard deviations of the measurements per group were used for statistical analysis (SPSS 22.00 for windows; SPSS inc, Chicago, USA). Difference between two groups was determined using chi square/ Fisher exact test and the level of significance was set at $p < 0.05$.

RESULTS

Out of 190 subjects, maximum were from age group of 20-25 years (39%) followed by 26-30 years (30%). Only 2% of the subjects were having age >36 years. Primigravida and multigravida was revealed in 32% and 68% of the subjects respectively [Table 1].

Table 1: Baseline characteristics among the study subjects

Variables	N=190	%
Age Group (in years)		
20-25	74	39
26-30	57	30
31-35	55	29
>36	4	2
Gravida		
Primigravida	61	32
Multigravida	129	68

Viable and nonviable pregnancy was found in 77% and 23% of the women respectively [Table 2].

Table 2: Characteristics of pregnancy

Type	N=190	%
Viable	146	77
Nonviable	44	23

Spotting and heavy bleeding was reported among 89.61% and 30.43% of the subjects in viable group and 10.39% and 69.57% in nonviable group respectively. Heavy bleeding was found associated more with nonviable pregnancy as compared to viable pregnancy. When

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viable and nonviable pregnancy was compared according to spot and heavy bleeding using chi square test, statistically significant difference was found [Table 3].

Table 3: Characteristics of pregnancy according to type of bleeding

Type of Bleeding	Viable		Nonviable		Chi Square	p value
	N=146	%	N=44	%	9.83	<0.01*
Spotting	101	89.61	13	30.43		
Heavy	45	10.39	31	69.57		

*: statistically significant

Etiology w.r.t. nonviable pregnancy was missed abortion (69.57%), subchorionic hematoma (8.7%), complete abortion (13.04%) and IUFD (8.7%) as revealed by USG [Table 4].

Table 4: Characteristics of pregnancy according to ultrasound

CAUSES	Viable		Nonviable		Fisher Exact Test	p value
	N=146	%	N=44	%	2.31	0.017*
Missed Abortion/BLIGHTED OVUM	0	0	31	69.57		
Subchorionic hematoma	0	0	4	8.70		
Incomplete abortion	0	0	5	13.04		
IUFD	0	0	4	8.70		
Normal Outcome	146	100	0	0.00		
Missed Abortion/BLIGHTED OVUM	0	0	31	69.57		
Subchorionic hematoma	0	0	4	8.70		
Incomplete abortion	0	0	5	13.04		

*: statistically significant

19% of the patients required uterine curettage. Blood transfusion was required in 2% patients of heavy bleeding. Tocolytics were started for 5% patients [Table 5].

Table 5: Management of the pregnancy outcomes

Management	N=190	%
Conservative	140	70
Tocolytics	10	5
Transfusion	4	2
Dilatation and curettage	36	19

Total 146 patients continued pregnancy beyond first trimester of which 2% patients had in 2nd trimester abortion; 13% patients had preterm labor and 5% had premature rupture of membranes. Pregnancy induced hypertension was found in 6% patients. Pregnancy till term was taken in 72% cases. [Table 6].

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Table 6: Outcome of viable pregnancy

Outcome	N= 146	%
2nd Trimester Abortion	4	2
Preterm Labor	21	13
PROM	9	5
PIH	11	6
APH	4	2
Pregnancy till term	96	72

Out of all the females with first trimester bleeding, 146 delivered live babies. Out of these, 13.9 % babies had birth weight >3kg. 36.1 % babies required NICU care whose APGAR score was less than 7 [Table 7].

Table 7: Outcome of viable pregnancy

Neonatal Outcome		N=146	%
BIRTH WEIGHT	<2 kg	18	12.7
	2-2.5 kg	35	24.1
	>2.5-3 kg	71	49.3
	>3 Kg	20	13.9
APGAR SCORE	_<7	53	36.1
	>7	93	63.9
Mortality		0	0

DISCUSSION

First-trimester bleeding is not only associated with miscarriage but also with a higher rate of pregnancy complications. First trimester bleeding is often a sign of threatened abortion and as such worrisome for both patient and doctor. If on ultrasound a vital fetus is observed and there is a blood collection or clot around the fetal sac, it seems worthwhile to advice the patient to take bed rest; however, there is no evidence that any conservative or medical management is beneficial. Bleeding during first trimester was associated with increased risk of preterm delivery.[3]

Out of 190 subjects, maximum were from age group of 20-25 years (39%) followed by 26-30 years (30%). Only 2% of the subjects were having age >36 years. Primigravida and multigravida was revealed in 32% and 68% of the subjects respectively in this study. Tejal N. Kansara et al9 in their study similarly showed that most of the subjects were under 20-25 years of age and multigravida. In the study by Amirkhani et al.[10] 53% patients were in the age group between 25-34 years of age.

In the present study, viable and nonviable pregnancy was found in 77% and 23% of the women respectively. In the study by Amirkhani et al.[10], 70% of pregnant women with first trimester vaginal bleeding continued their pregnancy. In another study by Snell.[11], it was found that vaginal bleeding occurred in 15-25% of all pregnancies and half of them continued their pregnancy.

In this study, spotting and heaving bleeding was reported among 76% and 24% of the subjects respectively. Heavy bleeding was found associated more with nonviable pregnancy as compared to viable pregnancy. When viable and nonviable pregnancy was compared according to spotting and heavy bleeding using chi square test, statistically significant difference was found. Zibdeh.[12] noticed that due to progesterone supplementation in patients with recurrent abortion, 85.4% patients had viable pregnancy while only 14.6% patients had abortion. Tejal N. Kansara et al.[9] in their study too reported that most of the subjects

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enrolled had spotting as primary episode of bleeding (77%) while about 10 subjects had significant amount of bleeding. In the study of Smit et al.[13], 84.5% patients with heavy bleeding were aborted and 15.5% continued pregnancy till term.

In this study; etiology w.r.t. nonviable pregnancy was missed abortion (69.57%), subchorionic hematoma (8.7%), complete abortion (13.04%) and IUFD (8.7%) as revealed by USG. 69% of the patients required uterine curettage. Blood transfusion was required in 2% patients of heavy bleeding. Tocolytics were started for 5% patients in this study. Total 146 patients continued pregnancy beyond first trimester of which 2% patients had in 2nd trimester abortion; 13% patients had preterm labor and 5% had premature rupture of membranes. Pregnancy induced hypertension was found in 6% patients. Adelusi et al.[14] stated that 40% patients with abortion lost their pregnancy due to various reasons. Tejal N. Kansara et al.[9] in their study revealed that 30 subjects developed complications in which most common complication were preterm delivery and PROM followed by pregnancy induced hypertension and placenta previa. 24 patients had aborted their pregnancy due to various different type of abortion. Roberto Romero et al.[15] stated that first trimester bleeding increases the risk of complications later in pregnancy. According to Kamble PD et al.[16], 40% patients were diagnosed to have missed abortion and underwent uterine curettage. USG revealed sub chorionic hematoma in 74 patients of which 65 eventually aborted in spite of conservative management.

It was seen in previous studies that due to numerous 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 and as a result such pregnancies developed growth failure and newborn had low birth weight due to premature delivery. Many studies agreed with low birth weight of newborns and Apgar of 5 minute less than 7 in pregnancies with first trimester bleeding.[16]

In the present study, out of all the females with first trimester bleeding, 146 delivered live babies. Out of these, 13.9 % babies had birth weight >3kg. 36.1 % babies required NICU care whose apgar was less than 7. Funderburk et al.[2] stated that 26% infants had low birth weight or were small for dates. He found suboptimal outcome in 29.7% subjects with threatened abortion compared to 15.2% patients without threatened abortion.

The limitation of the present study is its retrospective design and small sample size.

CONCLUSION

Bleeding per vaginum in the first trimester is a matter of great concern in obstetric population. It is a threat or warning sign for continuation of present pregnancy. It is commonly associated with obstetric complication like PROM, preterm delivery and PIH. The common fetal complication includes subchorionic hematoma and IUFD.

By knowing the etiology fetomaternal outcome of bleeding per vaginum in first trimester, we can predict the complication which will occurs in later pregnancy so we can manage it properly.

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