

Evaluation of Pregnancy Outcome in Women with 1st Trimester Vaginal Bleeding: An Observational Study

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Abstract: Vaginal bleeding before 12 weeks of gestation is a common complication affecting approximately 20% of pregnant women, often linked to factors such as implantation bleeding, miscarriages, ectopic pregnancy, and cervical pathology. This hospital-based observational study, conducted over one year at the Department of OBG in Raja Rajeswari Medical College and Hospital, Bangalore, Karnataka, evaluated the factors associated with first trimester vaginal bleeding and its impact on maternal and fetal outcomes. With a sample size of 120 women meeting specific inclusion criteria, the study found that threatened miscarriages were the most common outcome, with a significant portion of cases progressing to viable pregnancies. The research underscores the importance of early diagnosis and close monitoring to improve neonatal outcomes, highlighting the need for enhanced prenatal care for women experiencing first trimester bleeding to minimize complications.

Keywords: first trimester vaginal bleeding, maternal outcomes, fetal outcomes, prenatal care, threatened miscarriages

1. Introduction

Vaginal Bleeding before 12 weeks of gestation is relatively common obstetric event complicating nearly 20% of all pregnant women.

Bleeding per vagina in 1st trimester is caused by several factors like implantation bleeding, miscarriages (threatened, inevitable, incomplete and complete miscarriages), ectopic pregnancy and cervical pathology.

First trimester vaginal bleeding is shown to be associated with poor maternal and fetal outcome such as Pre term delivery, Pre eclampsia, Abruption, Fetal growth restriction, low birth weight, Pre labor rupture of membranes.

The knowledge of increased risks associated with first trimester vaginal bleeding may facilitate decision making regarding management and decisions regarding Mode, place and timing of delivery which will inevitably improve neonatal outcome.

Aims and Objectives of the Study:

- To evaluate the factors associated with 1st trimester vaginal bleeding.
- To assess the fetomaternal outcome in 1st trimester vaginal bleeding.
- Advantages of early diagnosis of risk factors associated with 1st trimester vaginal bleeding to prevent adverse outcomes.

2. Materials and Methods

Duration of study: 1 year (September 2022 to August 2023)

Type of study: Hospital based observational study.

Study Center: Department of OBG in Raja Rajeswari

medical college and hospital, Bangalore, Karnataka.

Sample Size: 120

Selection Criteria:

Inclusion Criteria:

- Singleton pregnancy with 1st trimester vaginal bleeding.
- Normal body weight.
- Regular menstrual cycles.
- Gestational age <12 weeks.
- Women who agreed for follow up visits.

Exclusion Criteria:

- Chronic hypertension.
- Uncontrolled hypothyroidism.
- Uncontrolled pregestational Diabetes mellitus.
- Known smoker.
- Women on Anticoagulant therapy.
- Preexisting Cervical/Uterine pathology.
- Abortifacient intake.
- Biochemical pregnancies.

3. Results and Observations

In the study period, nature of vaginal bleeding was recorded as "SPOTTING". Collected data was verified and statistically analyzed with a significant p - value <0.05.

In the present study most of the cases were primigravida 74 (61.7%), peak of incidence at gestational age of 6 - 10 weeks 76 (63.3%) and had spotting per vagina 50 (41.7%).

In this study threatened miscarriages were found in 66 (55%) followed by incomplete abortion 41 (34.2%) were common pregnancy outcomes in cases of 1st trimester vaginal bleeding.

Pregnancy outcome of vaginal bleeding at first trimester	Nature of bleeding per vagina			Total (n, %)
	More than spotting (n)	Clots (n)	Spotting (n)	
Complete miscarriage	3	0	2	5 (4.2%)
Ectopic pregnancy	0	0	5	5 (4.2%)
Incomplete miscarriage	3	37	1	41 (34.2%)
Molar pregnancy	2	0	1	3 (2.5%)
Threatened miscarriage	17	8	41	66 (55%)

Pregnancy outcome in first trimester vaginal bleeding

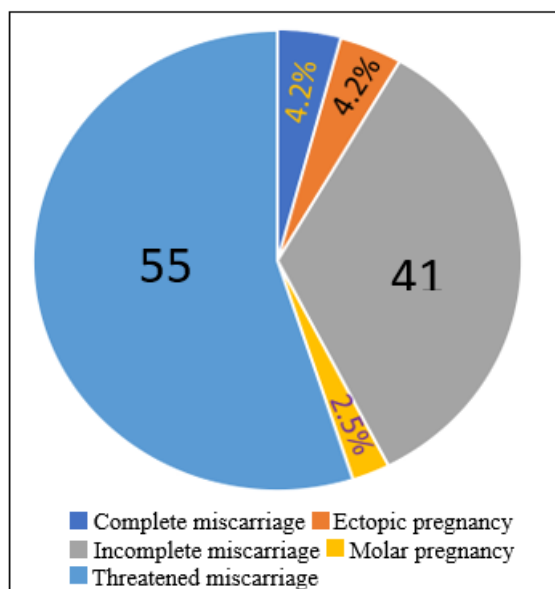
Obstetric variables	Frequency (n=120)	Percentage (%)
Parity		
0	84	70.0
1	27	22.5
2	07	5.8
3	02	1.7
Gravida		
1	74	61.7
2	32	26.7
3	10	8.3
4	3	2.5
5	1	0.8
History of bleeding in past pregnancy (Multigravida, n=46)		
No	29	63.4
Yes	17	36.6
Gestational age (weeks)		
<6	26	21.7
6-10	76	63.3
>10	18	15.0
Nature of bleeding per vagina*		
More than spotting	25	20.8
Clots	45	37.5
Spotting	50	41.7

Among the threatened abortions (n=66), majority 60 (90.9%) progressed to viable pregnancies of which term pregnancy is 34 (51.5%) followed by preterm labor 26 (39.4%) with spontaneous onset and only a few 6 (9.09%) ended with incomplete abortion.

Nature of per vaginal bleeding	Final outcome	n (%)
More than spotting (n=17)	Incomplete miscarriage	2 (11.8%)
	Preterm labour	11 (64.7%)
	Term pregnancy	4 (23.5%)
Clots (n=8)	Incomplete miscarriage	2 (25%)
	Preterm labour	5 (62.5%)
	Term pregnancy	1 (12.5%)
Spotting (n=41)	Incomplete miscarriage	2 (4.9%)
	Preterm labour	10 (24.4%)
	Term pregnancy	29 (70.7%)

Out of 26 preterm babies 17 (65.4%) needed NICU admission while only 7 (20.6%) term babies needed NICU admission. Most of preterm babies 61.5% and term babies 58.8% had birth weight in the range of 2.5 to 2.9 kgs.

In this study it was also found that 38.5% preterm babies and 11.8% term babies had APGAR <7 at 1 minute.



Parameters	Preterm (n, %)	Term (n, %)	Total (n)	χ^2 ; p-value
NICU admission				
No	9 (34.6%)	37 (79.4%)	46	$\chi^2=12.319$ p-value=0.000448*
Yes	17 (65.4%)	7 (20.6%)	24	
Birth weight (kg) Mean\pmSD 2.645\pm0.580 kg				
Low birth weight (<2.5 kg)	7 (26.9%)	3 (8.8%)	10	$\chi^2=15.249$ p-value=0.001616*
Very low birth weight (<1.5 kg)	3 (11.5%)	0	3	
2.5-2.9 kg	16 (61.5%)	20 (58.8%)	36	
>3 kg	0	11 (32.4%)	11	
APAGR score at 1 minute				
<7	10 (38.5%)	4 (11.8%)	14	$\chi^2=5.87$ p-value=0.015401*
≥ 7	16 (61.5%)	30 (88.2%)	46	

4. Conclusion

Majority of early pregnancy bleeding had threatened abortions with spotting, and were nulliparous, primigravida, gestational age 6 - 10 weeks.

Pregnancy complicated by first trimester vaginal bleeding is highly associated with increased maternal and fetal morbidity.

Hence, there is a need of close monitoring and more vigilance for providing prenatal care more seriously to the pregnant mothers following 1st trimester vaginal bleeding to minimize the foeto - maternal complications.

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