

# Analysis of First Trimester Bleeding - A Prospective Observational Study in Indian Population

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**Abstract:** ***Aim of the Study:** To find out the prevalence, risk factors and outcome associated with first trimester bleeding in the Department of Obstetrics and Gynaecology at Sri Muthukumaran Medical college. **Methods:** This was an hospital based prospective observational study which included all pregnant women with first trimester vaginal bleeding over a period of six months from February,2023 to August,2023. **Results:** 70 patients were analysed based on age, parity, gestational age and the outcome of the pregnancy and it was analysed that vaginal bleeding was more common in Multigravida, in the age group of 25-30. It was also noted that 5weeks to 10weeks of gestation was the commonest period in which vaginal bleeding outcome and majority of pregnancies in this study population had poor pregnancy outcome. **Conclusion:** Pregnancy complicated by first trimester vaginal bleeding is associated with poor fetal outcome [1] but the present study is sparse to investigate its prevalence and risk factor. The clinical importance of this study are close monitoring and proper follow up for all patients experiencing first trimester vaginal bleeding to improve the outcome of the pregnancy.*

**Keywords:** Vaginal bleeding, First trimester, Abortion

## 1. Introduction

Approximately one fourth of pregnant women will experience vaginal bleeding in the first trimester. Vaginal bleeding is a potentially alarming symptom in pregnancy and creates maternal apprehension [1]. The possible diagnosis in case of first trimester bleeding is implantation bleeding, miscarriages (threatened abortion, inevitable, incomplete and complete miscarriages), subchorionic hemorrhage and ectopic pregnancy [7, 8]. The outcome of first trimester vaginal bleeding is debatable and should always be treated as the continuation of pregnancy depends on it. The outcome of the pregnancy depends upon the gestational age at which bleeding occurs, the amount of bleeding and other associated risk factors [1].

### Objective of the study

To analyse the risk factors of first trimester bleeding in Indian population

## 2. Methods

This was an hospital based prospective observational study carried out at Sri Muthukumaran medical college and hospital done on 70 women with first trimester vaginal bleeding, over a period of six months at a tertiary care centre. Over the study period, all antenatal patients with first trimester vaginal bleeding were admitted in the obstetric department and a detailed history was taken regarding marital consanguinity, previous history of abortions, comorbid conditions such as diabetes, hypertension and thyroid disorders. Ultrasonogram was done to confirm the diagnosis, site of pregnancy (whether intrauterine or extrauterine), gestational age and other associated obstetric causes of bleeding per vaginam. Routine antenatal blood investigations were done along with blood sugar levels and thyroid function tests to rule out associated risk factors. Nature of the vaginal bleeding experienced in the study period was recorded as 'spotting', 'bleeding' and 'passage of clots'[1]. Any intervention or operative procedure done in

the course of management of the patient was also noted and the outcome along with risk factors was assessed.

### Inclusion Criteria:

- Pregnant women with first trimester vaginal bleeding.
- Patients whose pregnancies were confirmed by Urine pregnancy test.
- Patients who are willing to participate in the study.

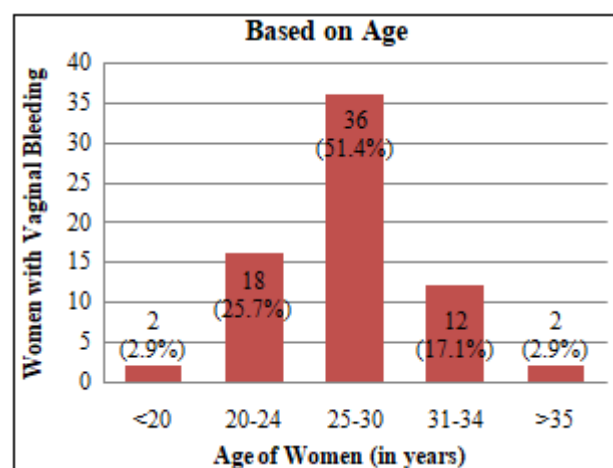
### Exclusion Criteria:

- Women on anti-coagulant therapy.
- Women with pre-existing cervical pathology or uterine pathology.
- Women with pre-existing bleeding disorders.
- History of abortifacient intake.
- All patients >12 completed weeks.

**Sampling Method:** Purposive sampling.

## 3. Results

Out of the 70 patients, majority of the cases were in the age group of 25-30 and the mean age was 26.94+/-4.15years. Most of them had no history of fertility treatment and had unplanned pregnancies.



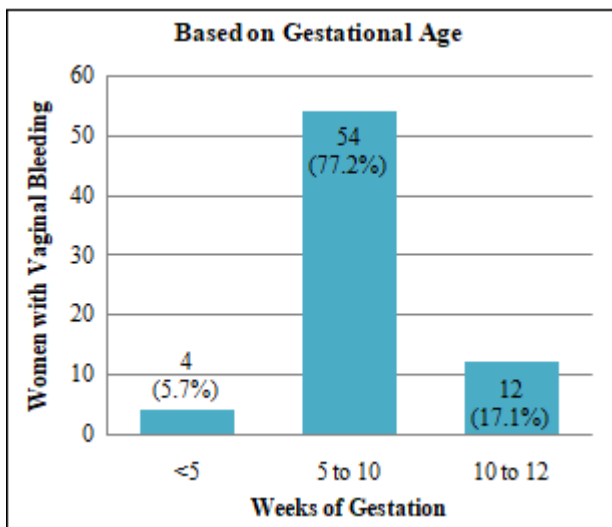
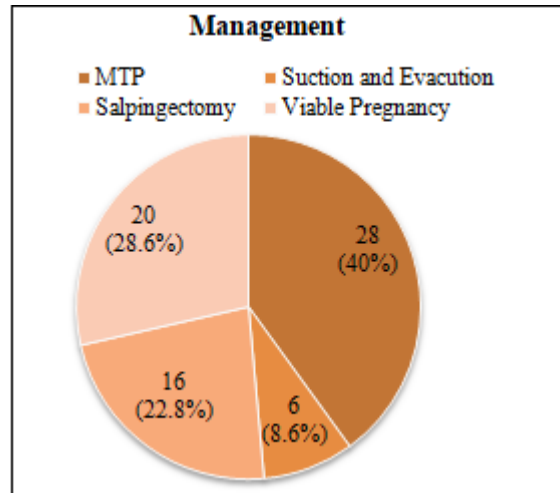
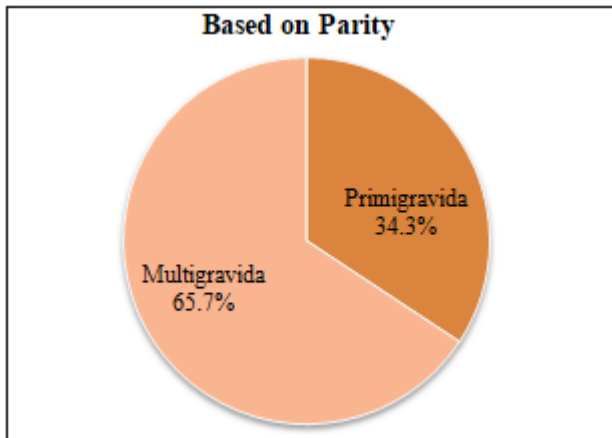
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Most cases were multigravida (65.7%) with peak incidence of gestational age at 5-10weeks of gestation. Mean gestational age was 8w+1d+/-2w+1d.

(Salpingectomy) and the rest of the cases (51.4%) resulted in pregnancy loss.



4. Discussion

Pregnancy complicated by first trimester vaginal bleeding is associated with adverse fetal outcome or morbidity [1]. The mean age in our study was 26.9+/-4.15years. This was in accordance with the study of Perara BH et al, who found that mean maternal age was 28.8+/-9.2years [3]. Perhaps the reason for this was most of the patients got married, planned their pregnancies or conceived in this age group.

In this study, 34.3% were primigravida and 65.7% were multigravida. This result was in accordance with the study conducted by Patel NG et al, who found that majority of the patients (66%) were multigravida [4].

In the present study, the incidence of vaginal bleeding had the highest incidence in the gestational age group of 5-10weeks (8w+1d+/-2w+1d), which was in accordance with the study conducted by Naskar et al[1]. In the present study, it was concluded that only 28.6% had good pregnancy outcome while the rest of the pregnancies resulted in either pregnancy loss or were terminated by salpingectomy in case of ectopic pregnancy.

5. Conclusion

Even though first trimester vaginal bleeding is an alarming symptom, with a wide range of risk factors and varied outcomes, every woman presenting with first trimester vaginal bleeding should be treated and monitored closely. The clinical importance of this study are close monitoring and proper follow up for all patients experiencing first trimester vaginal bleeding to improve the outcome of the pregnancy [1]. The study also advocates the significance of counselling and pre-natal care, which would help in decreasing the adverse outcomes associated with first trimester bleeding.

6. Limitations of the Study

The small sample size and the shorter duration of the study were limitations to this study. The smaller sample size could

Incomplete abortion was found in 20 cases (28.6%), followed by ectopic pregnancy in 16 (22.9%) cases and missed abortion in 14 (20%) cases. There were 10 (14.3%) cases of subchorionichemorrhage, 2 (2.8%) case of threatened abortion and 4(5.7%) cases of complete abortion. There were 4 (5.7%) cases which were unusual that resulted in spotting per vaginum which were due to fibroid complicating pregnancy and a ruptured right follicular cyst. Only 4 cases had the additional co-morbidity of hypothyroidism but the rest did not have any additional causes which could attribute to first trimester vaginal bleeding.

Pregnancy Outcome	Number of Women	Percentage
Incomplete Abortion	20	28.6
Missed Abortion	14	20
Ectopic Pregnancy	16	22.9
Subchorionic Hemorrhage	10	14.3
Threatened Abortion	2	2.8
Complete Abortion	4	5.7
Fibroid Complicated Pregnancy	2	2.8
Follicular Cyst	2	2.8

Amongst the 70 cases, 18(25.7%) patients went on to carry viable pregnancies, all the 16 (22.8%) cases of ectopic pregnancies were treated with surgical method

not attribute to the association of risk factors and the outcome of the pregnancy. The study is also limited by data from one obstetric centre as opposed to a more heterogenous population.

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