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## Pregnancy outcome in first trimester bleeding

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### Abstract

**Background:** The outcome of first trimester vaginal bleeding is a matter of debate. This study sought to determine the maternal and perinatal outcome in patients presenting with first trimester vaginal bleeding.

**Methods:** This prospective observational study was done on 40 women with first trimester vaginal bleeding at Kamineni Institute of Narketpally, in Nalgonda over a period of one year. A detailed history was taken and USG was done to confirm diagnosis. All these patients were evaluated for the outcomes including threatened abortions, spontaneous, complete or incomplete abortions, sub-chorionic hematoma, Intra-uterine Fetal Demise, missed abortions, second and third trimester bleeding, Intra-uterine Growth Restriction, premature rupture of membranes and preterm deliveries.

**Results:** Out of the 200 confinements 40 patients presented with first trimester vaginal bleeding. The incidence was highest (75%) in the age group of 20-25 years. 60% primigravidas presented with first trimester bleeding as compared to 40% of multigravidas. It was seen that 60% patients who presented before 6 weeks aborted whereas only 15% patients who presented after 10 weeks aborted. Out of the 8 patients that continued pregnancy after first trimester vaginal bleeding 20% went into preterm labour, 25% had premature rupture of membranes and 20% had antepartum hemorrhage.

**Conclusions:** According to the results of present study, first trimester vaginal bleeding predicts auxiliary maternal and fetal complications. Also, as the clinical intermediation has an important role in continuance of pregnancy and in reducing the fetal complications precise management and planning by physician is important.

**Keywords:** Abortions, first trimester bleeding, preterm labor, threatened abortion

### Introduction

First trimester vaginal bleeding is a common symptom of pregnancy, complicating 16-25% of all pregnancies.

Four major causes are miscarriage (threatened, inevitable, incomplete or complete), ectopic pregnancy, implantation bleeding of pregnancy and cervical pathology<sup>[1]</sup>.

It constitutes a source of anxiety for the mother, family as well as the care providers.

Outcome is likely to be affected by the gestational age at bleeding, cause of bleeding and severity of bleeding<sup>[2]</sup>.

After taking a detailed history, physical and pelvic examination should be done and further, with the help of imaging techniques, diagnosis and plan of management is decided

Over 50% of pregnancies with first trimester bleeding end in pregnancy loss.

If pregnancy continues poor maternal and fetal outcome such as preterm delivery, preterm premature rupture of membranes (PPROM), placental abruption, pre eclampsia and intra uterine growth restriction (IUGR) may occur.

It is also known that maternal age, systemic diseases such as diabetes mellitus, hypothyroidism, infertility treatment, thrombophilia, maternal weight and uterine structural anomalies increase the risk of abortus imminens<sup>[3]</sup>.

Emerging evidence suggests that it may be associated with poor fetal and maternal outcomes.

Further it is hypothesized that first trimester bleeding may indicate an underlying placental dysfunction, which may manifest later in pregnancy causing adverse outcomes such as increased risk of pre-eclampsic toxemias, preterm delivery, pre labour rupture of membranes (PROM), and IUGR<sup>[4]</sup>.

### Aim

To assess the pregnancy outcome in women with bleeding in first trimester.

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## Objectives

1. To assess outcome of pregnancy in patients with first trimester bleeding.
2. To assess antepartum complications associated with first trimester bleeding.
3. To assess intra partum complications associated with first trimester bleeding.
4. To assess neonatal complications associated with first trimester bleeding.

## Materials and Methodology

**Period of study:** May 2023 to May 2024

**Sample Size:** 40

**Place of study:** Department of Obstetrics and Gynaecology at Kamineni Institute of Medical Sciences (KIMS), Narketpally.

**Type of study:** Prospective observational study

## Inclusion criteria

All pregnant women less than 12 weeks of gestational age with complaints of bleeding per vagina

## Exclusion criteria

- Women opting for termination
- Women with multiple pregnancies.
- Women with fetal malformations or hydatidiform mole.
- Women who had a second-trimester miscarriage.
- Women with Congenital uterine Anomaly, large leiomyomata distorting the uterine cavity.
- Women with thrombophilia

## Methodology

- In the present study, Pregnant women who seek hospital assessment for Vaginal bleed less than 12 weeks of Gestation are the subjects for study with a view to evaluate the outcome of pregnancy following close antenatal and intra natal supervision.
- This prospective observational study was done in the Dept. of Obstetrics and Gynecology, Kamineni Institute of medical sciences, Narketpally.
- The cases are selected from the out-patient and inpatient department after taking informed consent.
- Women opting for termination and women with multiple pregnancies are excluded from the study group.
- Women with fetal malformations or hydatidiform Moles are excluded.
- Women who had a second trimester miscarriage are also excluded.
- Women with Congenital uterine Anomaly, large leiomyomata distorting the uterine cavity or a known thrombophilia are excluded from the study.
- Complete general and physical examination of patients is done.
- Patients are divided based on age and parity.
- OBS scan is done in all the patients to find the status of fetus and any other placental pathologies.
- Patients are divided according to USG findings like complete, incomplete, missed abortions, retroplacental clot, low lying placenta.

- Follow up of all patients with first trimester bleeding should be done by using telephone to know the outcome.
- Regular antenatal follow up should be done for all the patients who continued the pregnancy to assess any complications like IUGR, pre term, preeclampsia.
- Intra partum surveillance should be done to find any complications like PPH, retained placenta, PROM.
- Neonatal complications like low birth weight, NICU admissions for low APGAR and neonatal mortality were also noted in patients who continued the pregnancy.

## Observation and Results

**Table 1:** Distribution of patients according to age group

Age group (Years)	Patients who aborted (n=32)	Patients who continued pregnancy (n=8)	Total with percentage (n=40)
20-25 years	25	05	30 (75%)
25-30 years	07	03	10 (20%)

Out of 40 patients, 75% (30) are between 20-25 years of age group and 20% (10) are between 25-30 years of age group

**Table 2:** Distribution of patients according to parity

Parity	Patients who aborted (n=32)	Patients who continued pregnancy (n=8)	Total percentage (n=40)
Primigravida	18	06	24 (60%)
Multigravida	14	02	16 (40%)

Out of 40 patients, 60% (24) are primigravida and 40% (16) are multigravida.

**Table 3:** Distribution of patients according to gestational age

Gestational age	Patients who aborted (n=32)	Patients who continued pregnancy (n=8)	Total with percentage (n=40)
< 6 weeks	22	01	23 (60%)
6-10 weeks	06	05	11 (25%)
>10 weeks	04	02	06 (15%)

Out of 40 patients, 60% (23) had gestational age <6 weeks, 25% (11) had gestational age between 6-10 weeks and 15% (6) had gestational age >10 weeks

**Table 4:** Distribution of patients according to type of bleeding

Type of bleeding	Patients who aborted (n=32)	Patients who continued pregnancy (n=8)	Total with percentage (n=40)
Spotting	20	07	27 (70%)
Heavy	12	01	13 (30%)

Out of 40 patients, 70% (27) had spotting and 30% (13) had heavy bleeding

**Table 5:** Distribution of patients according to USG findings

Finding	Patients who aborted (n=32)	Patients who continued pregnancy (n=8)	Total with percentage (n=40)
Noramal fetus	0	04	4 (10%)
Complete abortion	07	0	7 (15%)
Incomplete abortion	23	0	23 (60%)
Missed abortion	02	0	2 (5%)
Retro placental clot	0	02	2 (5%)
Low lying placenta	0	02	2 (5%)

Based on USG findings, 60% (23) had incomplete abortion, 15% (7) had complete abortion, 10% (4) had normal fetus, 5% (2) had missed abortion, 5% (2) had retroplacental clot and 5% (2) had low lying placenta.

**Table 6:** Distribution according to antepartum complications in patients who continued pregnancy

Antepartum complications	Number (n=8)	Percentage
Pre eclampsia	Nil	Nil
Eclampsia	Nil	Nil
Abturtio placenta	1	10%
Lowlying placenta	1	10%
Pre term	2	20%
No complications	5	60%

Out of 8 patients who continued pregnancy, 60% had no antepartum complications, 20% had pre term, 10% had abruptio placenta and 10% had low lying placenta.

**Table 7:** Distribution according to intra partum complications in patients who continued pregnancy

Intrapartum complications	Number (n=8)	Percentage
PPH	1	10%
PROM	2	25%
Manual removal of placenta	Nil	Nil
No complications	5	65%

Out of 8 patients who continued pregnancy, 65% (5) had no intra partum complications, 25% (2) had PROM and 10% (1) had PPH.

**Table 8:** Distribution according to neonatal complications in patients who continued pregnancy

Neonatal complications	Number (n=8)	Percentage
Low birth weight (<2 Kg)	04	50%
Normal Neonate	02	25%
NICU Admission (with low APGAR)	02	25%
Mortality	Nil	Nil

Out of 8 patients who continued pregnancy, 50% (4) had low birth weight, 25% (2) had normal neonate, and 25% (2) had NICU admission with low APGAR.

## 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 foetus is observed and there is a blood collection or clot around the foetal 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. Neither progesterone nor HCG injections have demonstrated to be beneficial in improving pregnancy outcome.

Bleeding during first trimester was associated with increased risk of preterm delivery<sup>[5,6]</sup>.

Because of impaired implantation and invasive trophoblasts, spontaneous abortion may occur in early pregnancy while preterm delivery, PPROM, placental ablation and preeclampsia may happen in later period.

Ultrasound examination was considered an important investigation for the diagnosis of the cause of bleeding. The studies of Deutchman *et al.* and Thorstensen *et al.* it was seen

that in pregnancies with first trimester vaginal bleeding the most important diagnostic actions were transvaginal ultrasound and evaluating the rising of serum level of  $\beta$ HCG<sup>[7,8]</sup>.

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<sup>[9,10]</sup>.

Many studies agreed with low birth weight of newborns and Apgar of 5 minute less than 7 in pregnancies with first trimester bleeding.

Saraswat *et al.* performed a systematic review and demonstrated that first trimester bleeding has no effect on rout of delivery<sup>[11]</sup>.

But some other studies have shown that possibility of caesarean section in women with bleeding is more than others.

## Summary

In present study, out of 40 patients who had first trimester bleeding, 80% (32) had loos of pregnancy, only 20% (8) continued pregnancy.

Based on USG findings, out of 40 patients, 60% (23) had incomplete abortion, 15% (7) had complete abortion, 10% (4) had normal fetus, 5% (2) had missed abortion, 5% (2) had retroplacental clot and 5% (2) had low lying placenta.

Out of 8 patients who continued pregnancy, 60% (5) had no antepartum complications, 20% (2) had abruptio placenta and 10% (1) had low lying placenta.

Out of 8 patients who continued pregnancy, 65% (5) had no intra partum complications, 25% (2) had PROM and 10% (1) had PPH.

Out of 8 patients who continued pregnancy, 50% (4) had low birth weight, 25% (2) had normal neonate, and 25% (2) had NICU admission with low APGA.

## Conclusion

According to the results of present study, first trimester vaginal bleeding predicts auxiliary maternal and fetal complications. Also, as the clinical intermediation has an important role in continuance of pregnancy and in reducing the fetal complications precise management and planning by physician is important.

## Conflict of Interest

Not available

## Financial Support

Not available

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