

**A Study on Maternal and Fetal Outcome Among Pregnant Women with First Trimester Bleeding Per Vaginum, In A Tertiary Care Centre**

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**Conflicts of Interest:** Nil

**Abstract**

**Background:** About 25% of all pregnant women have some degree of vaginal bleeding during the first trimester. The aim of this study was to know about the pregnancy outcomes in women who presented with bleeding per vaginum during first 12 weeks of gestation.

**Methodology:** A total of 100 pregnant women who presented to Sree Mookambika Institute of Medical Sciences with first trimester bleeding were studied. This prospective cohort study was conducted in the Department of Obstetrics and Gynaecology from November 2022 to October 2023.

**Results:**The pregnant women with bleeding per vaginum during first 12 weeks of pregnancy were at a

higher risk of placenta previa (10%), preterm labour(10%), premature rupture of membranes(10%), fetal growth restriction(4%) and abruptio placentae(2%).

**Conclusion:** It was concluded that pregnant women with first trimester bleeding are at a higher risk of facing poor maternal and fetal outcomes.

**Keywords:**placenta previa, abruptio placentae, preterm labour, premature rupture of membranes, fetal growth restriction.

**Introduction**

Pregnancy is one of the most precious events in the life of a woman. Vaginal bleeding in the first trimester is one of the most common obstetric problems that affect 20 to 25% of all pregnancies<sup>[1]</sup>. It also causes anxiety to the

mothers about the pregnancy outcomes. The significance of first trimester bleeding ranges from an inconsequential episode to a life-threatening emergency. About one-third of the bleeding in early pregnancy are found to be normal<sup>[2]</sup>. The main causes of first trimester bleed include abortion, tubal pregnancy, implantation bleeding or a local cause from the genital tract.<sup>[3]</sup> Though bleeding in the first trimester threatens the mother about the outcome, only 30% of women experience abortion. The remaining 70% will continue the pregnancies and end up fruitfully. However, meta-analyses show that bleeding in the first 3 months of pregnancy has increased risk of other complications in that pregnancy. So the present study analysed the maternal and fetal outcome among pregnant women with first trimester bleed.

#### Aim

To study the maternal and fetal outcome among pregnant women with first trimester bleeding per vaginum.

#### Method

This was a prospective study carried out in the Department of Obstetrics and Gynaecology, Sree Mookambika Institute of Medical Sciences, Kulasekharam, Kanniyakumari district, for a period of one year from November 2022 to October 2023. The study was performed among 100 antenatal mothers attending our outpatient department, with the complaints of bleeding per vaginum in the first trimester of pregnancy, who had history of amenorrhoea and positive urine pregnancy test. Patients referred from other hospitals were also thoroughly examined. Reasons for referral were noted. Previous reports were reviewed. Detailed history including age, parity, age at menarche, booking status, years of marriage, last menstrual period, gestational age, past medical, surgical and obstetric history were recorded. Informed written consent was

obtained from all the mothers under study, that they were kept under surveillance and the maternal and fetal outcomes of pregnancy were elicited by close observation on the process of pregnancy. Sonography was done for all the women under study and they were visited every two weeks till 24 weeks of gestation, weekly from 25 to 32 weeks and twice a week thereafter. The data was analysed by SPSS version 20. The study was approved by our institutional ethics and research committee.

#### Inclusion Criteria

- Period of amenorrhoea of less than 3 months
- Pregnancy test - positive
- History of bleeding per vagina
- History of previous regular menstrual cycles
- Absence of any cervical and vaginal pathology

#### Exclusion Criteria

- Patient with bleeding per vaginum following medical termination of pregnancy.
- Antenatal mothers in second and third trimester of pregnancy.
- History of any bleeding tendency.
- History of any trauma over the genitals during the present pregnancy.
- Antenatal mothers who refused to participate in the study.

#### Results

This was a hospital based prospective study to assess the fetomaternal outcome of pregnant women with first trimester bleeding per vaginum.

Table 1: Pregnancy outcome in women with first trimester vaginal bleeding n (%)

Pregnancy outcome in women with first trimester vaginal bleeding	n%
Abortion	13 %

Termination of pregnancy	17 %
Normal vaginal delivery	41%
Cesarean section	29%

Regarding the pregnancy outcome in women with first trimester vaginal bleeding, about 70% ended up fruitfully; with normal vaginal delivery being 41% and caesarean section being 29% whereas 13% of them had abortions and the remaining 17% had termination of pregnancy.

Table 2: Age Distribution

Age in years	Percentage
<20	21%
20-30	66%
>30	13%
Total	100%

While considering the distribution of age among pregnant women with first trimester bleed, 21% were teenage mothers that is less than 20 years of age. 66% came under the age group of 20 to 30 years of age, while the remaining 13% were above 30 years.

Table 3: Relation Between Gravida and Risk Of First Trimester Bleed

Gravida	First Trimester Bleed
Primigravida	59%
Multigravida	41%

The data of my study shows that the risk of first trimester bleed is slightly more in primigravidae than that of multi gravidae.

Table 4: Conditions Underlying Bleeding Per Vaginum In 1st Trimester of Pregnancy.

Conditions	n%
Abortions	25%
Ectopic pregnancy	04%
Hydatidiform mole	01%
Physiological	70%

Some underlying etiologies for bleeding per vaginum during first trimester of pregnancy are as follows. Abortions (including threatened, inevitable and incomplete abortions) contributed 43%, ectopic pregnancy 4%, molar pregnancy 1% and the majority were physiological covering 52% of the pregnant women under study.

It was also noted that the patients who presented with spotting per vaginum had better pregnancy outcome than those who came with moderate or heavy bleeding in first trimester.

Table 5: Fetal Outcome

Outcome	Number	Percentage
Full term	55	55%
Preterm	10	10%
Fetal growth restriction	4	04%
Perinatal death	1	01%

The fetal outcome among pregnant women with first trimester bleed are that 55% of the babies were delivered at full term, 10% had preterm delivery and 4% had fetal growth restriction. However, 1% of perinatal death was also noted.

Table 6: Maternal Outcome

Complications	Number	Percentage
No complications	51	51%
Anaemia	26	26%
PPROM	10	10%
Placenta previa	10	10%
Placenta abruption	02	02%
Post partum haemorrhage	01	01%

In my study, majority of the pregnant women (51%) with first trimester bleed had no complications, while 26% ended up with anaemia. About 11% women presented with preterm premature rupture of membranes, 9% with placenta previa and 2% with placenta abruption.

Only 1% of my study population presented with postpartum haemorrhage.

### Discussion

Total number of deliveries over the study period was 2080, out of which 520 had complaints of bleeding per vaginum during first trimester.

In the study conducted by Snell et al, it was demonstrated that vaginal bleeding occurred among 15-25% of pregnancies and 50% of them continued their pregnancy<sup>[4,5]</sup>. In co-relation with Snell et al, my study population also showed that 25% of pregnancies had first trimester bleed but about 70% of them continued their pregnancy.

Similar to Amirkhani et al., my study also showed that among the pregnant women with first trimester vaginal bleed, only 30% had abortion and 70% continued pregnancy<sup>[5]</sup>. But this is in contrast to Yakistiran et al., who stated that 11.7% of pregnant women who experienced bleeding in the first trimester terminated their pregnancies with spontaneous abortion while 88.3% of them continued with their pregnancy even after the period of viability<sup>[6]</sup>.

According to Kanmaz et al., preterm labour was reported in 6.2% of patients<sup>[7]</sup>, while in my study it was seen in 10% of study population. But the study done by Talwar et al showed that 21% of his patients experienced preterm labour<sup>[8]</sup>. The findings in my study were in par with Amirkhani et al, in saying that the risk of vaginal bleed in first trimester was more in primigravida than that of multigravida<sup>[5]</sup>. This was in contrast to Lewis et al., who stated that mutigravidae women had more risk of first trimester vaginal bleed than that of primigravidae women<sup>[9]</sup>. Saraswat et al., showed that the vaginal bleed during first trimester had no influence on the mode of delivery<sup>[10]</sup>. The current study showed that the rate of

vaginal delivery (41%) was more than that of caesarean section (29%). According to various previous studies, the probability of preterm delivery was more among pregnant women with first trimester bleeding due to various placental disorders<sup>[11]</sup>. My study results however showed 55 full term deliveries with only 10 preterm deliveries. In par with Siddiqui et al, the present study also demonstrated that pregnant women with first trimester bleed presented with bleeding in the second and third trimester as well due to the possibility of placenta previa and abruptio placentae<sup>[12]</sup>. In co-relation with other studies, my study population also presented with fetal growth restriction and low birth weight babies due to the possibility of pre term deliveries<sup>[13]</sup>. Coinciding with my study results, various studies also agreed with the incidence of low birth weight babies, newborns with APGAR at 5 minutes- score less than 7 and even perinatal mortality in women presenting with first trimester bleed<sup>[14]</sup>.

### Conclusion

First trimester vaginal bleed of course had adverse pregnancy outcomes. The risk of adverse maternal and fetal outcomes was directly proportional to the amount of bleeding the women had during first trimester. Those who presented with spotting per vaginum had better prognosis than those with heavy bleeding. The incidence of first trimester bleed was more in the age group of 20 to 30 years. The probability of adverse maternal outcomes such as abortions, preterm rupture of membranes, pre term labour, placenta previa, abruptio placenta and gestational hypertension is increased in mothers with the first trimester vaginal bleeding. Similarly, there is increased possibility of adverse fetal outcomes like low birth weight, fetal growth restriction and perinatal mortality. Keeping in mind the various

complications associated with first trimester bleed, it is necessary to provide proper counselling and education to the high-risk group of people. Early identification of the risk factors associated with first trimester bleed, their timely and required management would help in decreasing the maternal and perinatal morbidity and mortality and hence the overall pregnancy loss<sup>[15]</sup>.

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