

Study of Maternal and Perinatal Outcomes in Pregnant Women with First Trimester Vaginal Bleeding in Andhra Pradesh Population

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Abstract:

Background: Vaginal bleeding in pregnancy is a common complication. It is associated with miscarriage or spontaneous abortion, ectopic implantation, preterm delivery, molar pregnancy, and low birth weight foetus. It may cause a risk; therefore, it has to be evaluated and treated meticulously.

Method: 50 (fifty) pregnant women with first trimester vaginal bleeding were studied. A physical and obstetrical examination has been carried out. Investigations include Hb%, CT, BT, ABO "Rh", HIV, syphilis, HbsAg, HCV, urine, FBS, TSH, and HCG in every patient. USG was performed to know the stages of pregnancy, the period of gestation, cardiac activity, the size of the sub-chorionic hemomatoma, presence of adnexal mass, and the free fluid.

Results: Clinical manifestations were: 12 (24%) were aged between 18-25, 26 (52%) were aged between 26-35, 12 (24%) were >35 years. The bleeding volume in the study – 2 (4%) had spotting, 11 (22%) had moderate bleeding, and 37 (74%) had high volume bleeding. 28 were nulliparous (56%), 14 (28%) were para 1, 5 (10%) were para 2, 3 (6%) were > para 2. 17 (34%) had a previous history of bleeding, and 7 (14%) had a history of abortion. The obstetrical complications were: 12 (24%) had premature labour; 3 (6%) had premature rupture of the membrane, 7 (14%) had placental abruption, 2 (4%) had IU death; and 2 (4%) had IU growth retardation. The outcome of pregnancy 10 (20%) had abortions, 5 (10%) had termination of pregnancy, 19 (38%) had normal vaginal deliveries, 2 (4%) had caesarean sections, 6 (12%) had a minute 5 Apgar score, and 8 babies (16%) were admitted to the NICU.

Conclusion: It is concluded that, vaginal bleeding in the first trimester has diagnostic value for maternal and fetal complications and is a challenge for obstetricians and gynaecologists to evaluate and treat efficiently.

Keywords: First trimester, Maternal and foetal, vaginal bleeding, Andhra Pradesh.

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Introduction

First trimester bleeding is a common complication that affects 16–25% of all pregnancies [1]. It is reported that first

trimester bleeding may indicate an underlying placental dysfunction that may manifest later in pregnancy, causing

adverse outcomes such as increased risk of pre-eclampsia, preterm delivery, preterm prelabor rupture of membrane (PPROM), placental abruption, and intrauterine growth restriction (IUGR) [2].

Threatened miscarriage is diagnosed on the basis of documented foetal cardiac activity on ultrasonography and a history of vaginal bleeding in the presence of a closed cervix. Bleeding during pregnancy can cause maternal anxiety, and emerging evidence suggests that it may be associated with poor foetal and maternal outcomes[3]. Hence, an attempt is made to evaluate the clinical manifestations, obstetrical complications, and outcomes of pregnancy.

Material and Method

50 pregnant women admitted to the obstetrics and gynaecology department of the Nimra Institute of Medical Sciences hospital in Jupidi, Vijaywada, Andhra Pradesh (5214506) were studied.

Inclusive Criteria: Pregnant women with a history of bleeding per vaginum during the first trimester were selected for the study.

Exclusion Criteria: Women with chronic medical complications, including diabetes mellitus, hypertension, a history of infertility, antipsychotic therapy, and immune compromised patients, were excluded from the study.

Method: A detailed obstetrical history was taken regarding the period of amenorrhoea, amount of vaginal bleeding (spotting, moderate, or heavy), colour of bleeding, association with pain, and any other complaint. A general physical examination and obstetrical examination were carried out in every patient. Investigations like haemoglobin, bleeding time, clotting time, ABO Rh, HIV, serological tests for syphilis, HBsAg, HCV, urine complete, fasting blood sugar, serum TSH, and beta HCG were carried out in all patients. Ultrasonography was done in all patients at the time of admission to determine the site of pregnancy, period of gestation, cardiac

activity, size of sub-chorionic haemorrhage, adnexal mass, and free fluid, if any. Patients were followed regularly until delivery. Maternal outcomes like abortion, preterm delivery, preterm premature rupture of membranes, placenta previa, placental abruption, preeclampsia, anaemia, post-partum haemorrhage, and perinatal outcomes like intrauterine growth retardation, preterm low birth weight, birth asphyxia, and foetal death were recorded.

The duration of the study was April 2022 to May 2023.

Statistical analysis: Various clinical manifestations like age groups, parity, bleeding volume, previous history of bleeding abortions, obstetrical complications, and pregnancy outcomes were classified by percentage. The statistical analysis was carried out using SPSS software.

Observation and Results

Table-1: Clinical Manifestation of obstetrical patients-

- 12 (24%) patients were aged between 18-25 years, 26 (52%) 26-35 years of age, >35 years were 12 (24%) patients.
- Bleeding volume in current pregnancy: 2 (4%) spotting, 11 (22%) moderate bleeding, 37 (74%) high bleeding
- Parity:- nullipara were 28 (56%) patients, para 1 were 14 (28%) patients, para 2 were 5 (10%) patients, > para 2 were 3 (6%)
- History of previous bleeding: 17 (34%) patients had history of bleeding, 33 (66%) had no bleeding.
- History of abortion – 7 (14%) had history of abortion, 43 (86%) had no history of abortion.

Table-2: Study of obstetrical complications –

- 12 (24%) had premature labour,
- (6%) had premature rupture of membrane,
- 7 (14%) had placental abruption,
- 2 (4%) had Intra-uterine death,

➤ 2 (4%) had Intra-uterine growth retardation.

Table-3: Study of pregnancy out come in patients with first trimester vaginal bleeding –

➤ 10 (20%) had abortion,

- 5 (10%) termination of pregnancy,
- 19 (38%) Normal vaginal pregnancy,
- 21 (42%) had caesarean section,
- 6 (12%) had minutes 5 APGAR score,
- 8 babies were (16%) admitted in NICU.

Table 1: Clinical manifestation of obstetrical patients

Manifestation	Age	No. of patients	Percentage
a) Age	18-25	12	24%
	26-35	26	52%
	> 35	12	24%
b) Bleeding volume in current pregnant	Spotting	2	4%
	Moderate	11	22%
	High	37	74%
c) Parity	0	28	56%
	1	14	28%
	2	5	10%
	> 2	3	6%
d) History of previous bleeding	Yes	17	34%
	No	33	66%
e) History of abortion	Yes	7	14%
	No	43	86%

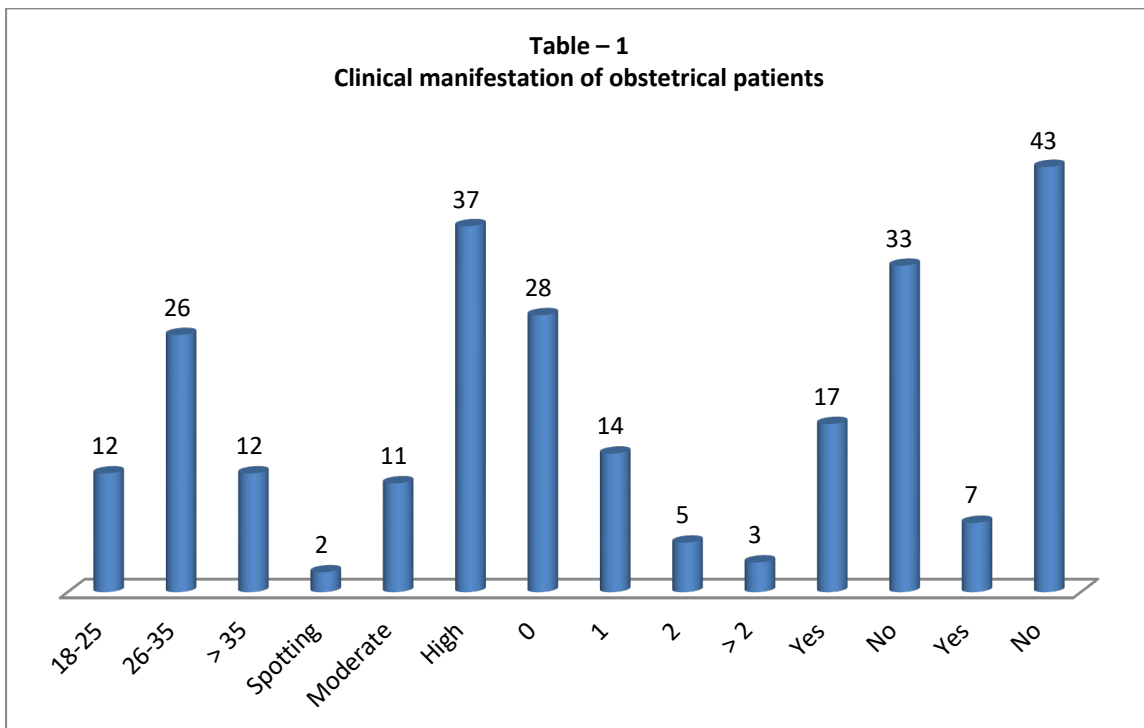


Figure 1:

Table 2: Study of obstetrical complications in patients with first trimester bleeding

Complications	No. of patients	Percentage
Premature Labour	12	24
Premature rapture of membrane	3	6
Placental abruption	7	14
Intra Uterine death	2	4
Intra uterine growth retardation	2	4
No complications	24	48

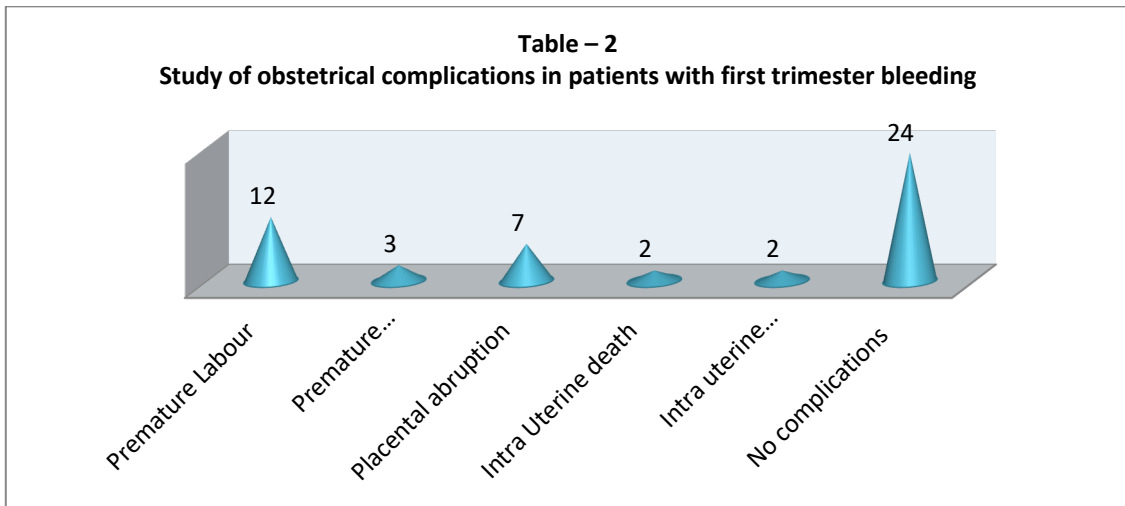


Figure 2:

Table 3: Study of pregnancy outcomes in patients with first trimester vaginal bleeding

Pregnancy outcome	No. of patients	Percentage
Abortion	10	20
Termination of pregnancy	5	10
Normal vaginal delivery	19	38
Caesarean section	21	42
Minute 5 APGAR score	6	12
Admission in NICU	8	16

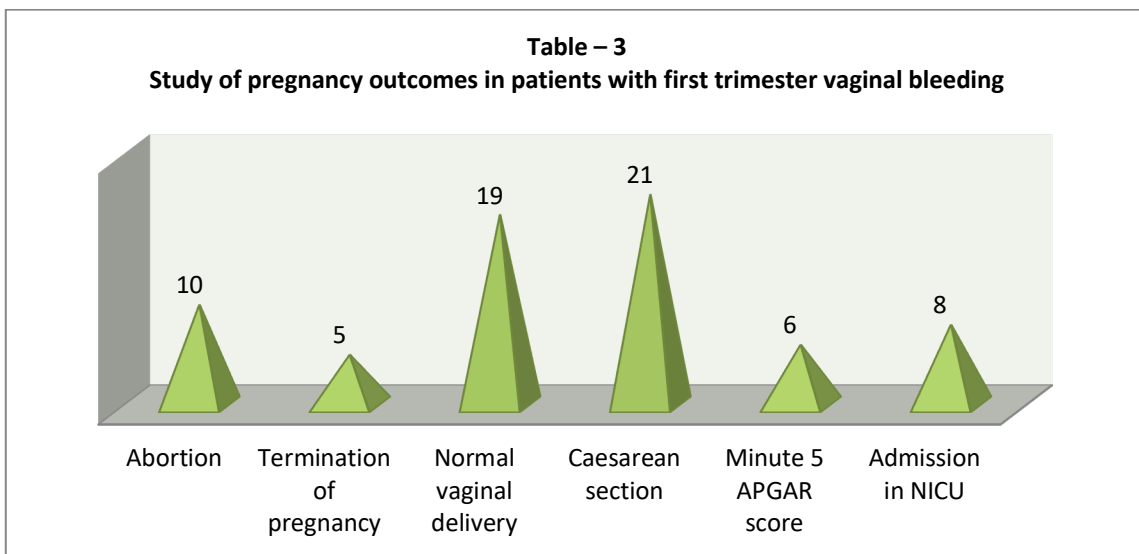


Figure 3:

Discussion

Present study of maternal and perinatal outcome in pregnant women with first trimester vaginal bleeding in the Andhra Pradesh population. The clinical manifestations were that 12 (24%) were aged between 18-25 years, 26 (52%) were aged between 26-35 years, and 12 (24%) were > 35 years. In the study bleeding volume was, 2 (4%) had spotting, 11 (22%) had moderate bleeding, and 37 (74%) had severe bleeding. The parity in the study was, 28 were nulliparous, 14 (28%) were para 1, 5 (10%) were para 2, 3 (6%) were > para 2. 17 (34%) had a history of previous bleeding, and 7 (14%) had a history of abortion (Table 1). In the study obstetrical complications were, 12 (24%) had premature labour, 3 (6%) had premature rupture of the membrane, 7 (14%) had placental abruption, 2 (4%) had IU death, and 2 (4%) had intra-uterine retardation (Table 2). In the study outcomes of the pregnancy were – 10 (20%) had abortion, 5 (10%) had termination of pregnancy, 19 (38%) had normal vaginal delivery, 21 (42%) had caesarean section, 6 (12%) had a minute 5 APGAR score, and 8 (16%) had admission to the NICU (Table 3). These findings are more or less in agreement with previous studies [5,6,7].

The reason for the association between first trimester bleeding and adverse pregnancy outcomes is poorly understood because sometimes bleeding in the first trimester may be associated with a chronic inflammatory reaction in the decidua. It is also known that, in about two-thirds of early pregnancy failures, there is evidence of defective placentation, characterised by thinner and fragmented trophoblast cells and reduced cyto-trophoblast invasion of spiral arterioles, leading to vaginal bleeding during pregnancy. It is reported that vaginal bleeding during the first trimester is associated with an increased risk of low birth weight, preterm birth, still birth, death, and congenital malformations in infants [8]. If untreated, it may lead to a threatened

miscarriage. It was also noted that spontaneous pregnancy loss may occur following first trimester with vaginal bleeding [9].

Some studies define the first trimester up to the 12th week, while some authors claim the first trimester up to the 14th week of pregnancy. Vaginal bleeding is associated with intrauterine infection, and foetal anoxia has been suggested as a teratogen in pregnancies complicated by early bleeding [10]. Placental infarction, decidual haemorrhage, and necrosis accompanying vaginal bleeding may lead to intrauterine infection, placental abnormality, and poor fetal growth. Threatened abortion is the result of severe intrauterine infection, but non-infectious vaginal bleeding was also reported in many cases. It is also reported that the quantity of vaginal bleeding cannot predict maternal or fetal complications.

Summary and Conclusion

In the present study of maternal and perinatal outcomes in pregnant women with first trimester vaginal bleeding, there was an increased risk for spontaneous pregnancy loss and adverse pregnancy outcomes like preterm birth, antepartum haemorrhage, inter-uterine growth restriction, low birth weight, prenatal mortality, and admission to the neonatal intensive care unit, but there was no significant increase in incidence of pre-eclampsia or anaemia. Such pregnancies demand an early approach to an obstetrics and gynaecologist with a well-equipped medical centre so that the predicted risk can be reduced or prevented. However, the present study demands further pathophysiological, genetic, nutritional, and hormonal studies because the exact pathogenesis of vaginal bleeding during early pregnancies is still unclear.

Limitation of study – Owing to the tertiary location of the present hospital, the small number of patients, and the lack of the latest instruments, we have limited results.

The present study was approved by the Ethical Committee of Nimra Institute of Medical Sciences Hospital, Jupidi, Vijaywada, Andhra Pradesh, 521456.

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