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Original Research Article

Study of fetomaternal outcome in first trimester bleeding per vaginum

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ABSTRACT

Background: First trimester vaginal bleeding is a frequent obstetric problem affecting 20–25% of pregnancies and is associated with anxiety and adverse pregnancy outcomes. It may range from benign causes to life-threatening conditions and can significantly influence fetal and maternal prognosis.
Methods: This retrospective observational study was conducted at Sub district hospital Gandhidham Bhuj Kutch over 9 months and included 40 pregnant women presenting with vaginal bleeding in the first trimester. Data regarding age, parity, obstetric history, ultrasound findings, management and pregnancy outcomes were collected from hospital records and analyzed.
Results: Most women were aged 21–30 years and 62.5% were primigravida. Ultrasound findings included normal scans, incomplete and missed abortions, anembryonic gestation, ectopic pregnancy and subchorionic hematoma. Conservative and medical management was used in threatened cases, while surgical intervention was required in non-viable pregnancies. Eighteen women had viable outcomes, with 13 delivering live babies.
Conclusions: First trimester bleeding is a high-risk condition associated with increased miscarriage and adverse obstetric outcomes. Early diagnosis, close monitoring and proper counselling are essential to improve feto-maternal outcomes.

Keywords: Ectopic pregnancy, Fetal growth restriction, Oligohydroamnios

INTRODUCTION

Pregnancy is one of the most significant events in a mother's life. First trimester is a dynamic period which spans ovulation, fertilisation, implantation and organogenesis. Bleeding per vaginum is a common obstetrics complication occurring in 20-25% of all pregnancies.[1,2] It can be the cause of anxiety for the mother, her family as well as the care providers. The bleeding can range from mere spotting to life-threatening emergencies. Array of causes of first trimester bleeding have been identified over the years ranging from physiological to pathological and viable pregnancy to non-viable pregnancy. Causes are implantation bleeding, miscarriage (threatened, incomplete, complete, missed), ectopic pregnancy, gestational trophoblastic disease, cervical pathology etc. If first trimester pregnancies are complicated by bleeding, normal progress beyond 20 weeks of gestation is seen in less than 50% , abortion in 30%, ectopic pregnancy in 10-15% and hydatidiform mole in 0.2%.[3] If pregnancy continues there is increased risk of poor obstetric outcomes such as fetal growth restriction, preeclampsia and premature rupture of membranes, preterm labour , low birth weight.[4] This can be a tough time for women because of uncertainty of outcome, lack of preventive measures and emotional impact of early pregnancy loss.[5] After the first trimester bleeding in different women there are different outcomes of ongoing

pregnancy. The prognosis of threatened miscarriage is very unpredictable whatever treatment method is employed in hospital or at home.[6] Since there are increased feto-maternal risks associated with first trimester bleeding, counselling and decision-making regarding management, mode, place and timing of delivery is important which will ultimately improve neonatal outcome.

Aim and objectives

To evaluate the outcome of pregnancy after the first trimester vaginal bleeding in terms of viable and non-viable outcome. To study the maternal complications associated with first trimester vaginal bleeding.

METHODS

This retrospective observational study was performed in Sub district hospital Gandhidham Bhuj Kutch for a period of 9 months from January 2025 to September 2025 with a total of 40 mothers who were presented with first trimester vaginal bleeding. Data were collected from hospital records regarding maternal age, parity, spontaneous or assisted conception, past history, family history. Complete history followed by detailed examination of all the patients were done. The patients were followed up regularly in the antenatal clinic and repeat ultrasound scans were done as required. A structured proforma was used to collect information and they were followed up throughout their pregnancy to evaluate various outcomes.

Inclusion criteria

Pregnant patients-confirmed by positive UPT (urine pregnancy test) and sonography. Patients with bleeding per vaginum in first trimester

Exclusion criteria

Patients coming with vaginal bleeding following MTP. Bleeding tendencies. History of mechanical trauma during the present pregnancy. Patients with any trauma or cervical pathology.

RESULTS

This retrospective study is done on 40 women attending our hospital presenting with a history of first trimester vaginal bleeding at a tertiary health centre-Bhuj from November 2024 to August 2025 for a period of 9 months. The age range in this study was 18-35 and the majority (55%) of first trimester bleeding occurred in the age group of 21-30 years. In the study, 62.5% of patients were primigravida and 37.5% were multigravida. In the current study, 15 (37.5%) of the patients with first trimester bleeding PV had a history of previous spontaneous/induced miscarriage. History of spontaneous miscarriage were present in 9 (22.5%) of cases of bleeding PV in present pregnancy and history of induced miscarriage were present in 6 (15%) of cases of bleeding PV in present pregnancy. The majority of first trimester bleeding patients (45%) presented with amenorrhea between 8 and 10 weeks, with less than 6 weeks accounting for 5 (12.5%%) of patients. According to this study, the most common time of presentation of patients with first trimester bleeding per vaginum is 8-10 weeks of amenorrhea (according to history and according to sonography in doubtful cases).

Only 1 (4%) of the 15 cases of spotting had a non-viable outcome, while 11 (27.5 %) had a viable outcome. One of the ten non-viable spotting pregnancy cases had an ectopic pregnancy. In the study cervical/vaginal infection was found in 1 (2.5%) patient, endocrine abnormalities in 4 (10%), Immunological factors in 1 (2.5%) case, Mullerian abnormality including septate or bicornuate uterus was found in 1 (2.5%) case, rest cases of bleeding per vaginum were unexplained causes. USG was done in all patients presenting with bleeding per vaginum. No sonographic abnormality was found in 22 patients, subchorionic hematoma in 1 patient, blighted ovum (Anembryonic G sac) in 3, missed abortion (Absent cardiac activity) in 3 and Incomplete abortion (retained products) was found in 4 patients. In this study, 13 of the 40 cases were ill handled conservatively. Pelvic rest, appropriate counselling, reassurance etc. Medical management in the form of oral or injectable progesterone was used to manage all threatened cases, whether in the hospital or at home. Single dose Methotrexate was used to treat one of the four ectopic pregnancies.

Laparotomy was used in one of the four hemodynamically unstable ectopic pregnancy cases presenting late. Anembryonic gestation (Blighted ovum), all incomplete miscarriages, Inevitable Miscarriages, H. mole and anomalous babies were evacuated by D&E. In the cases, first trimester bleeding was also associated with poor maternal outcome: Anaemia was 11 (25 %), PPROM was 6 (15%), PIH was 2 (5%), placenta abruption was 1 (2.5 %) and placenta previa was 2 (5%) because of some degree of poor placentation in such patients. 8 of the patients gave birth vaginally, while 10 had a caesarean section.

Table 1: Age wise distribution.

Age (in years)	Number (%)
<20	11 (27.5)
21-30	22 (55)
>31	7 (17.5)
Total	40 (100)

Table 2: Gravida wise distribution.

Gravida	Number (%)
Primi	25 (62.5)
Multi	15 (37.5)
Total	40 (100)

Table 3: History of previous miscarriage.

Abortion	Number (%)
Spontaneous	9 (22.5)
Induced	6 (15)
Total	15 (37.5)

Table 4: Gestational age at time of presentation.

Duration of amenorrhea in weeks	Number (%)
4-5	5 (12.5)
6-7	6 (15)
8-10	18 (45)
11-12	11 (27.5)
Total	40 (100)

Table 5: Correlation of spotting with viability.

Duration of spotting in days	Viable	Nonviable
1-2	4	2
3-4	6	2
5-6	1	0
7-8	0	0
Total	11	4

Table 6: Cause of bleeding per vaginum.

Cause	Number (%)
Infection	1 (2.5)
Thyroid	2 (5)
Diabetes	0
APLA, SLE	0
Mullerian Anomaly	1 (2.5)
Unknown	34 (85)

Table 7: USG findings.

Usg findings	Number
Normal	22
Subchorionic haemorrhage	1
Irregular g sac	2
Anembryonic g sac	3
G sac fetal pole seen CA absent	3
Rpoc	4
Twins	0
Ectopic	4
H mole	1

Table 8: Treatment.

	Treatment	Number
Live fetus+threatened abortion+no pathology	Conservative	13
Ectopic	Medical	18
Ectopic	Laparoscopy	0
Ectopic	Laprotomy	1
Inevitable+incomplete+H mole	D&e	8

Table 9: Complications.

Complication	Number
No complication	11
Anemia	8
Prom	6
Pih	2
Pph	2
Abruption	1
Previa	2

Table 10: Mode of delivery.

Mode of delivery	Number
Vaginal	8
LSCS	10

DISCUSSION

This retrospective study is done on 40 women attending our hospital presenting with a history of first trimester vaginal bleeding at a tertiary health centre-Bhuj from November 2024 to August 2025 for a period of 9 months. The age range in this study was 18-35 and the majority (55%) of first trimester bleeding occurred in the age group of 21-30 years, In the study, 62.5% of patients were primigravida and 15% were multigravida. In the current study, 15 (37.5%) of the patients with first trimester bleeding PV had a history of previous spontaneous/induced miscarriage. History of spontaneous miscarriage were present in 9 (22.5%) of cases of bleeding PV in present pregnancy and history of induced miscarriage were present in 6 (15%) of cases of bleeding PV in present pregnancy.[7,8] The majority of first trimester bleeding patients (45%) presented with amenorrhea between 8 and 10 weeks, with less than 6 weeks accounting for 5 (12.5%%) of patients.

According to this study, the most common time of presentation of patients with first trimester bleeding per vaginum is 8-10 weeks of amenorrhea (according to history and according to sonography in doubtful cases.[9,10] In the study cervical/vaginal infection was found in 1 (2.5%) patients, endocrine abnormalities in 4 (10%), Immunological factors in 1 (2.5%) cases, Mullerian abnormality including septate or bicornuate uterus was found in 1 (2.5%) cases, rest cases of bleeding per vaginum were unexplained causes. USG was done in all patients presenting with bleeding per vaginum. No sonographic abnormality was found in 22 patients, subchorionic hematoma in 1 patient, blighted ovum (anembryonic G sac) in 3, missed abortion (absent cardiac activity) in 3 and Incomplete abortion (retained products) was found in 4 patients.[11] In this study, 13 of the 40 cases were handled conservatively. Pelvic rest, appropriate counselling, reassurance etc. Medical management in the form of oral or injectable progesterone was used to manage all threatened cases, whether in the hospital or at home. Single dose methotrexate was used to treat one of the four ectopic pregnancies.[12]

Laparotomy was used in one of the four hemodynamically unstable ectopic pregnancy cases presenting late. Anembryonic gestation (blighted ovum), all incomplete miscarriages, inevitable miscarriages, H. mole and anomalous babies were evacuated by D&E.[13] Out of 40 patients with bleeding PV in the first trimester, 18 patients had a viable pregnancy outcome and 26 had a non-viable pregnancy outcome with the highest no. of pregnancies 13 reaching till term and delivering live born. 45% of the patients gave birth vaginally, while 55 % had a caesarean section.[14]

CONCLUSION

Pregnancy complicated by first trimester bleeding is considered high-risk and necessitates advanced care and management. As the amount and duration of bleeding increases, so does the risk of miscarriage and adverse pregnancy outcomes, especially when accompanied by

abdominal pain. There is a 100% chance of miscarriage with heavy bleeding and a significant chance of miscarriage with moderate or light bleeding and abdominal pain. Miscarriage in a previous pregnancy is a strong risk factor for a poor outcome in the current pregnancy. Pregnancy prognosis is significantly affected in the presence of subchorionic haematoma because the risk of preterm birth, FGR and especially miscarriage increases. First trimester bleeding is linked to an increased risk of pregnancy complications such as placenta previa, placental abruption, preeclampsia, preterm labour, low birth weight infant delivery and PPROM.

When a patient experiences vaginal bleeding, education and proper counselling about possible pregnancy outcomes should be provided. Given the high incidence of miscarriage and complications in first trimester bleeding, proper care programming and education for women in the high-risk category are essential. Patients should be educated on the signs, symptoms and consequences of PV bleeding. All patients with early pregnancy bleeding should be treated as high risk and monitored closely to avoid feto-maternal complications such as miscarriage, anemia, antepartum and postpartum hemorrhage, preeclampsia, fetal growth restriction, PROM, preterm birth, low birth weight and neonates that are small for gestational age.

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REFERENCES

1. Deutchman M, Tubay AT, Turok DK. First trimester bleeding. American Fam Phys. 2009;79(11):985-92.
2. Evrenos AN, Cakir Gungor AN, Gulerman C, Cosar E. Obstetric outcomes of patients with abortus imminens in the first trimester. Arch Gynecol Obst. 2014;289:499-504.
3. Hossain R, Harris I, Lohsoonthorn V, Williams M. Risk of preterm delivery in relation to vaginal bleeding in early pregnancy. Eur J Obstet Gynecol Reprod Bio. 2007;135(2):158-63.
4. Berkowitz GS, Harlap S, Beck GJ, Freeman DH, Baras M. Early gastational bleeding and pregnancy outcome: a multivariable analysis. International J Epidemiol. 1983;12(2):165-73.
5. Adelusi B, Dada OA. Prognosis of pregnancy after threatened abortion. Int J Gynecol Obst. 1980;18(6):444-7.
6. Haddow JE, Knight GJ, Kloza EM, Palomati GE. Vaginal bleeding and pregnancy risk. Br J obstet Gynaecol. 1986;93(6):589-3.
7. Cunningham FG, Leveno KJ, Bloom SL, Spong CY, Dashe JS, Hoffman BL, et al. Williams Obstetrics. 26th ed. New York: McGraw-Hill Education. 2022: 374–405.
8. Shaw RW, Soutter WP, Stanton SL. Gynaecology. 4th ed. London: Churchill Livingstone Elsevier. 2011;215–230.
9. Weiss JL, Malone FD, Vidaver J, Ball RH, Nyberg DA, Comstock CH, et al. Threatened abortion: a risk factor for poor pregnancy outcome. Am J Obstet Gynecol. 2004;190(3):745-50.
10. Tuuli MG, Norman SM, Odibo AO, Macones GA, Cahill AG. Perinatal outcomes in women with subchorionic hematoma: a systematic review and meta-analysis. Obstet Gynecol. 2011;117(5):1205-12.
11. American College of Obstetricians and Gynecologists. ACOG Practice Bulletin No. 200: Early pregnancy loss. Obstet Gynecol. 2018;132(5):197-207.
12. Cunningham FG, Leveno KJ, Bloom SL, Williams Obstetrics. 26th ed. New York: McGraw-Hill Education. Chapter: Bleeding in Early Pregnancy. Ectopic Pregnancy. 2022.
13. Berek JS. Berek & Novak's gynecology. Lippincott Williams & Wilkins. 2019.
Hinshaw K, Fayyad A. The management of early pregnancy loss. Royal College of Obstetricians and Gynaecologists. 2000.

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