ROLE OF ULTRASOUND IN FIRST TRIMESTER PREGNANCY PRESENTING WITH BLEEDING PER VAGINA AND ITS OUTCOME

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Abstract

Introduction: Blood from the vagina is called vaginal bleeding. It can happen anytime between conception and delivery. Bleeding during pregnancy can worry mothers, and new research suggests it may be connected to poor fetal and maternal outcomes. First trimester bleeding concerns many obstetricians. Vaginal bleeding may occur in 25% of pregnant women in the first trimester. Half of these will miscarry within 20 weeks, and those who remain pregnant have a higher risk of complications later in pregnancy.

Methods: From April 2021 to March 2022, the JLN medical college and hospital, Ajmer, obstetrics, and gynecology department did this study. The department of obstetrics and gynecology at JLN medical college and hospital, Ajmer, saw all patients with first-trimester hemorrhage. Patients with clinically suspected first trimester hemorrhage (<14 weeks) were included. All local lesions causing vaginal hemorrhage and patients over 14 weeks pregnant were excluded.

Results: Most patients (40%) were threatened abortion, 15% were missed abortion, 20% were blighted ovum, 10% were incomplete abortion, 3% were Ectopic pregnancy, 2% were delaying period and Low-Lying placenta, and 1% were partial mole, complete abortion, Ovarian cyst complicating pregnancy, and Fibroid complicating pregnancy. Half of the patients were threatened abortion (52%), 8 percent missed abortion, 11 percent incomplete abortion, 6 percent full abortion, 5 percent delayed periods, 25 patient's complete mole, and 16 percent ectopic pregnancy. 25% of patients spent 2 days, 60% lasted 2-7 days, and 16% stayed longer. 46% were normal, 30% were aberrant, and 24% were ectopic.

Conclusion: Most emergency admissions to the obstetrics department are due to vaginal bleeding in the first trimester. Abortions, ectopic, and molar pregnancies cause first-trimester bleeding. Ultrasound is a non-invasive, non-ionizing, and readily available way to screen patients with first trimester bleeding. It accurately diagnoses the sources of bleeding and helps clinicians choose the right treatment and avoid mismanagement.

Keyword: Bleeding, First-trimester, USG

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Introduction

Any bleeding from the vagina is referred to as vaginal bleeding. Between conception (when the egg is fertilised) until the end of the pregnancy, it may happen at any time. Pregnancy bleeding can be concerning for women, and new research suggests it may be associated with bad outcomes for both the mother and the foetus.

First trimester bleeding is a major source of concern for the obstetric community. One-quarter of pregnant women may experience vaginal bleeding during the first trimester. Within the first 20 weeks of pregnancy, about 50 percent of these will miscarry, and women who continue to be pregnant have a higher risk of experiencing numerous complications later on.[1] Early in a pregnancy, bleeding can be lethal. Even a tiny amount of bleeding or spotting per vaginum, which can be overlooked as unimportant, could have disastrous effects. All healthcare professionals must therefore understand the illness and work toward a prompt diagnosis.

Methods

From April 2021 to March 2022, the current study was carried out at the JLN medical college and hospital in Ajmer's department of obstetrics and gynaecology. All of the patients visited the obstetrics and gynaecology department at the JLN medical college and hospital in Ajmer with a history of bleeding during the first trimester of pregnancy.

All patients with clinically diagnosed first trimester haemorrhage (14 completed weeks of pregnancy) met the inclusion criteria. All local lesions that cause vaginal bleeding and all patients who are more than 14 weeks pregnant were included in the exclusion criteria.

Data analysis

Data were entered into SPSS and exported from Microsoft® Excel® 2019. The Mann-Whitney U test was used to assess quantitative data, which were reported as median [interquartile range (IQR); Q1, Q3]. Chi square tests were used to compare categorical variables with or without Yate's correction. Area under the curve (AUC) was computed using receiver operating characteristic (ROC) curve analysis. The 24-hour urine protein excretion was used as the gold standard to assess the sensitivity, specificity, and cut-offs for the. P value less than 0.05 was deemed significant. The SPSS v21.0 statistical analysis programme was used.

Results

Baseline Characteristics

According to Table 1, there were 15% of instances for people under 20, 47% of cases for people between 21 and 25, 28% of cases for people between 26 and 30, and 10% of cases for people over 30. 60% of patients were multiple gravidae, compared to 40% of main gravidae. 65 percent of patients were in rural areas, compared to 35 percent in metropolitan areas. Patients' socioeconomic backgrounds varied from lower class (45%), medium class (40%) to upper class (15%). Twenty percent of women worked for private companies, 32% worked for the government, and 47% of women were housewives.

USG Diagnosis in first trimer bleeding

According to Table 2, the majority of patients (40%) were threatened with abortion, while 15% missed their appointment, 20% had blighted ovums, 10% had incomplete abortions, 3% had ectopic pregnancies, 2% had delayed periods and low-lying placentas, and 1% had partial moles, complete abortions, ovarian cysts complicating pregnancy, and 1% had fibroids complicating pregnancy.

Clinical Diagnosis in first trimer bleeding

52 percent of the patients were threatened with abortion, 8 percent missed their period, 11 percent had partial abortions, 6 percent had complete abortions, 5 percent had delayed periods, 25 had entire moles, and 16 percent had ectopic pregnancies (Table 3).

Duration of hospital stay after diagnosis.

Patients stayed for an average of two days in 25% of cases, two to seven days in 60% of cases, and more than seven days in 16% of cases (Table 4).

Type of Pregnancy

According to Table 5, there were 46 percent of normal pregnancies, 30 percent of aberrant pregnancies, and 24 percent of ectopic pregnancies.

Discussion

First trimester bleeding frequently occurs in emergency situations and occurs in pregnant women who have amenorrhea lasting 12 weeks or less.[2] The most typical form of bleeding brought on by conceptus implantation into the endometrium is spotting. First trimester bleeding per vaginum is thought to occur anywhere from 7 to 24 percent of the time in early pregnancies.[3] Spontaneous abortions, ectopic pregnancies, and gestational trophoblastic diseases, which are responsible for

around half of all miscarriages, are the main causes of first trimester haemorrhage. Clinical diagnosis based on physical examination and clinical history are validated by ultrasound.

The goal of the current study was to examine how ultrasound could be used to monitor a pregnancy with vaginal bleeding throughout the first trimester.

15 percent of cases were under 20 years old, 47 percent were between 21 and 25 years old, 28 percent were between 26 and 30 years old, and 10 percent were above 30 years old. 60% of patients were multiple gravidae, compared to 40% of main gravidae. 65 percent of patients were in rural areas, compared to 35 percent in metropolitan areas. Patients' socioeconomic backgrounds varied from lower class (45%), medium class (40%) to upper class (15%). Twenty percent of women worked for private companies, 32% worked for the government, and 47% of women were housewives. In a study by **Gawade and Virmani**,[4] the majority of patients who came with first trimester vaginal bleeding were between the ages of 18 and 27. (70.67 percent). In a study by **Kurmi et al,**[5] the majority of occurrences of first trimester bleeding per vaginum are seen in multigravida, with 62 cases reported (62 percent). Only 38 instances (38 percent) of primigravida presented with vaginal bleeding in the first trimester.

A threatened abortion affected half of the patients (52%); missed abortions affected 8%, incomplete abortions affected 11%, complete abortions affected 6%, delayed periods affected 5%; complete moles affected 25%; and ectopic pregnancies affected 16% of the patients. In a study by **Gawade and Virmani**,[6] stated that the most prevalent clinical diagnosis was threatening abortion (86.67 percent). Others were classified as missed abortion (5.33%), incomplete abortion (4.0%), ectopic pregnancy (2.0%), hederiform mole (0.67%), threatening abortion with cervical polyp (0.67%), and complete abortion (0.67%). (0.67 percent). In a study by **Shivanagappa** et al,[7] the majority of the patients (57%) were threatened with abortion, 31 percent were incomplete abortion, 4 percent were missed abortion, 6 percent were ectopic pregnancy, and 1 percent were complete abortion and molar pregnancy.

A normal pregnancy affected 46% of patients, an abnormal pregnancy affected 30% of patients, and an ectopic pregnancy affected 24% of patients. In a study by **Kaur and Kaur**,[8]the entire number of patients (n=70) was separated into three groups based on the pregnancy's eventual outcome. Normal pregnancies (n=46), aberrant pregnancies (n=17), and ectopic pregnancies (n=7) were the three groups. There were seven cases of missed abortion, six cases of blighted ovum, and four miscellaneous cases among the abnormal pregnancies.

Conclusion

One of the most prevalent reasons for emergency obstetric department admissions is bleeding during the first trimester, and vaginal bleeding is also the most common finding on first trimester ultrasounds. Abortions, ectopic pregnancies, and molar pregnancies are some of the major reasons of bleeding during the first trimester. First trimester bleeding patients can be evaluated using ultrasound, a non-invasive, non-ionizing, and widely accessible method of investigation. Ultrasound is highly accurate in identifying the true causes of bleeding, aids the clinician in determining the best course of treatment, and guards against case mismanagement.

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Table 1 Baseline Characteristics

	Frequency (n=100)	Percentage (%)
Age Group (years)		
≤20	15	15%
21-35	47	47%
26-30	28	28%
>30	10	10%
Parity		
Primary	40	40%
Multi	60	60%
Region		
Urban	35	35%
Rural	65	65%
Socio Economic Status		
Lower	45	45%
Middle	40	40%
Upper	15	15%
Occupation		
Housewife	48	48%
PVT. Employee	20	20%
Govt. Employee	32	32%

Table 2: USG Diagnosis in first trimer bleeding

USG Diagnosis	Frequency	Percentage
Threatened Abortion	40	40%
Missed Abortion	15	15%
Blighted Ovum	20	20%
Incomplete Abortion	10	10%
Complete Abortion	1	1%
Delayed periods	2	2%
Complete mole	3	3%
Partial Mole	1	1%
Ectopic Pregnancy	3	3%
Low Lying placenta	2	2%
Ovarian cystcomplicating pregnancy	1	1%
Fibroid complicating pregnancy	1	1%
Bicornuate uterus	1	1%

Table 3: Clinical Diagnosis in first trimer bleeding

Clinical Diagnosis	Frequency	Percentage
Threatened Abortion	52	52%
Missed Abortion	8	8%
Incomplete Abortion	11	11%
Complete Abortion	6	6%
Delayed periods	5	5%
Complete mole	2	2%
Ectopic Pregnancy	16	16%

Table 4: Duration of hospital stay after diagnosis.

Duration of hospital stay	Frequency	Percentage
2 days	24	24
2–7 days	60	60
>7 days	16	16

Table 5: Type of Pregnancy

Type of Pregnancy	Frequency (n=100)	Percentage (%)
Normal	46	46%
Abnormal	30	30%
Ectopic	24	24%