Ultrasonography findings in first trimester vaginal bleeding

Rani Jha, Ankur Shah, Shailesh Kumar Jha

Mithila Hospital Private Limited, Janakpur, Nepal

Received: May 24, 2020 Accepted: October 16, 2020

ABSTRACT

Aims: To determine the causes of first trimester vaginal bleeding using Ultrasonography.

Methods: This is a hospital based cross sectional study conducted from July to December 2019. Ultrasonogram scan was done for the 200 women within 12 weeks of pregnancy with a positive pregnancy test and vaginal bleeding in in out-patient set up.

Results: Majority were under 30 years of age and 45.5% diagnosed as threatened Abortion. More than half were non-viable pregnancy.

Conclusions: Ultrasound examination is the essential diagnostic and confirmatory tool to diagnose early pregnancy bleeding in clinical set up.

Keywords: Clinical examination, first trimester bleeding, ultrasonography

Citation: Jha R, Shah A, Jha SK. Ultrasonography findings in first trimester vaginal bleeding. Nep J Obstet Gynecol. 2020;15(31):106–108. DOI: https://doi.org/10.3126/njog.v15i2.32919

INTRODUCTION

The first trimester of pregnancy includes first 12 weeks of pregnancy. First trimester vaginal bleeding is an alarming and worrisome condition both for patient and the clinician. The incidence of bleeding in first trimester is 7-24%[1-5] and this wide variation can be due to different type of study design. There are many causes of first trimester bleeding ranging from nonthreatening "implantation bleeding" to serious ones that may lead to fetal loss. Correct diagnosis is the cornerstone of the proper management of hemorrhage in early pregnancy. Before the advancement of ultrasonography technology, the diagnosis and management of bleeding in pregnancy depended mainly upon history taking, clinical evaluation and pregnancy test. However, now Ultrasonography has become the most valuable noninvasive technique used to evaluate bleeding per vaginum during pregnancy with highly satisfactory results. Early and correct diagnosis helps in proper management, saving time and preventing unnecessary intervention. Jaideep Malhotra et al[6] did a prospective evaluation of 150 patients with first trimester bleeding and concluded that ultrasonography was the only imaging modality by which an accurate assessment of first trimester bleeding can be done from the diagnostic and prognostic point of view.

The causes of early pregnancy bleeding can be: Implantation bleeding, threatened abortion, blighted ovum, missed abortion, inevitable abortion, incomplete abortion , complete abortion, septic abortion , ectopic gestation and gestational trophoblastic disease.

The present study aims to find out the accuracy of ultrasonography in diagnosing causes of first trimester vaginal bleeding.

METHODS

This cross sectional study was conducted in the Obstetrics and Gynecology department of Mithila Hospital, Janakpur, Nepal from July to December 2019. Two hundred women were included in the study over a period of 6 months. Women presenting anywhere from first day of last menstrual cycle to 12 weeks of pregnancy with a positive pregnancy test and complaints of bleeding per vagina were included in study. Non-obstetrical causes of vaginal bleeding were excluded.

CORRESPONDENCE

Dr Rani Jha
Department of Obstetrics and Gynecology, Mithila Hospital Private Limited, Janakpur, Nepal
Email: ranijhaobgyn@gmail.com; Mobile: +977-9844025466

The cases recruited from clinic with clinical history, physical examination and urine pregnancy test; then provisional diagnosis of pregnancy related bleeding were made and followed with ultrasonography. Hemoglobin and blood grouping was done in all women. Ultrasonography (USG) examination noted uterine size, presence of gestational sac, size and margin of gestational sac, presence of foetal pole, crown rump length (CRL), cardiac activity, foetal movements and presence of fluid in the cul-de-sac. A failed intrauterine pregnancy was only diagnosed if cardiac activity was absent in an embryo ≥7 mm. Bilateral adnexa were scanned to rule out ectopic gestation and other pathology.

RESULTS

There were 200 women included in the study. Over 90% were under the age of 30 years. [Table-1]

Table-1: Age group distribution of early pregnancy bleeding (N=200)

Age Group	Number	%
16-20 yrs	79	39.5
21-25 yrs	61	30.5
26-30 yrs	42	21
31-35 yrs	13	6.5
≥ 40 yrs	5	2.5

Out of 200 women 13 women's first scan showed only Intrauterine Gestational Sac (GS). Out of these 4 repeat scan showed live fetus; 9 cases with intrauterine GS on first scan turned up as Blighted ovum in repeat scan after 2 weeks. Seven cases with documented positive urine pregnancy test showed neither intrauterine nor ectopic pregnancy in scan and labeled as complete abortion. One twin pregnancy case showed demise of 1 twin. Altogether 55% cases were non-viable pregnancy. [Table-2]

Table-2: USG findings of early pregnancy bleeding (N=200)

USG Finding	Number	%
Incomplete abortion	64	32
Subchorionic haemorrhage	46	23
Normal finding (live fetus)	45	22.5
Blighted ovum	21	10.5
Embryonic demise	12	6
Empty uterine cavity (no ectopic)	7	3.5
Molar pregnancy	3	1.5
Ectopic gestation	1	0.5
Demise of one twin	1	0.5

The final diagnosis is made by ultrasound after clinical examination, so ultrasound has become both diagnostic as well as confirmatory diagnostic tool but it require background information on pregnancy test and clinical note. [Table-3]

Table-3: Clinical and sonological diagnoses (N=200)

Diagnosis	Number	%
Threatened abortion	91	45.5
Incomplete abortion	64	32
Blighted ovum	21	10.5
Embryonic demise	12	6
Complete abortion	7	3.5
Molar pregnancy	3	1.5
Ectopic gestation	1	0.5
Demise of 1 twin	1	0.5

DISCUSSION

In a prospective study conducted by Rajan et al[7] 54.05% of women with first trimester vaginal bleeding had live fetus in scan. In our study 45.5% women had live fetus in scan and 50.5% women were diagnosed with pathological pregnancy requiring an immediate termination. 3.5% women had complete abortion. One (0.5%) woman had demise of one twins. This study highlights the invaluable role of sonography in investigating early pregnancy bleeding, providing a normal pregnancy with excellent chances of survival.

Rani et al[8] evaluated one hundred cases of first trimester bleeding by ultrasonography. In their study 61% cases had various types of abortion in comparison to 52.5% in our study.

Gupta et al[9] in their study of 200 women found 36% with Threatened abortion in comparison to 45.5% in our study. Accuracy of USG diagnosis in first trimester bleeding was 100% in our study in comparison to 96% in the study conducted by Gupta et al. However, studies conducted by Kurmi et al[10], Mamtha et al[11] and Manoli et al[12] showed a 100% diagnostic accuracy with USG in first trimester bleeding.

CONCLUSIONS

Ultrasound examination has become a complementary as well as confirmatory diagnostic tool to diagnose early trimester vaginal bleeding. Thus, Ultrasound is the indispensable tool for the obstetrician.

REFERENCES

1. Yang J, Savitz DA, Dole N, Hartmann KE, Herring AH, Olshan AF, Thorp JM Jr. Predictors of vaginal bleeding during the first two trimesters of pregnancy. Paediatr Perinat Epidemiol. 2005;19(4):276-83.
2. Batzofin JH, Fielding WL, Friedman EA. Effect of vaginal bleeding in early pregnancy on outcome. Obstet Gynecol. 1984;63:515–8.
3. Sipila P, Hartikainen-Sorri AL, Oja H, Von Wendt L. Perinatal outcome of pregnancies complicated by vaginal bleeding. Br J Obstet Gynaecol. 1992;99:959–63.
4. Axelsen SM, Henriksen TB, Hedegaard M, Secher NJ. Characteristics of vaginal bleeding during pregnancy. Eur J Obstet Gynecol Reprod Biol. 1995; 63:131–4.
5. French JI, McGregor JA, Draper D, Parker R, McFee J. Gestational bleeding, bacterial vaginosis, and common reproductive tract infections: risk for preterm birth and benefit of treatment. Obstet Gynecol. 1999; 93:715–24.
6. Malhotra J, K Saxena, Malhotra N. Ultrasound evaluation of first trimester bleeding per vaginum. J Obstet Gynecol India. 1987;37:341-3.
7. Rajan R, Rajan V. Ultrasonography in First trimester bleeding. J Obstet Gynecol Ind. 1987;37:457-61.
8. Rani PR, Sunita V. Ultrasound Evaluation of cause of vaginal bleeding in first trimester of pregnancy, J Obstet Gynecol Ind. 2000;50(1):54-58.
9. Gupta N, Samariya M, Choudhary D, Yadav K, Kannoujiya P. Ultrasonographic evaluation of first trimester bleeding per vaginum. Int J Reprod Contracept Obstet Gynecol. 2016;5:3085-7.
10. Kurmi D, Jadhav VR, Misri A, Mishra N, Prabhu S, Savani G. Role of pelvic sonography in first trimester bleeding. J Evol Med Dent Sci. 2015;4(49):8516-25.
11. Mamatha S, Sagar SG, Manoli N. Ultrasound evaluation of vaginal bleeding in first trimester of pregnancy: a comparative study with clinical examination. Int J Sci Stud. 2015;3(7):202-6.
12. Manoli N, Ramamurthy H. Role of ultrasound in first trimester bleeding. Scholar's Press. 2013;2012.