

Assessment of First Trimester Vaginal Bleeding Using Ultrasound Sonography

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Research Article

Article Info:

Received on: 21/05/2016
Published on: 27/06/2016



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ABSTRACT :

Vaginal bleeding during the first trimester has been estimated to occur in 16% of all pregnant women, while the frequency of spontaneous abortion is traditionally estimated as 10-20%. The clinical approach though helpful is of limited value. Despite the latest technological developments and laboratory diagnosis the desired goal of early recognition is not achieved.

The objective of the study to evaluate role of ultrasound in patients with first trimester vaginal bleeding. Hospital based study. A total of 100 cases presented with complaint of bleeding per vaginum during first trimester, were enrolled for study. Ultrasonographic examinations were done per abdominally by using ultrasound equipment.

The data showed that it is the common problem in 20-30 age pregnant womens. In the present study various types of abortions constituted the commonest cause of first trimester bleeding. All cases the cases were diagnosed correctly on ultrasonography with 100% sensitivity and accuracy and managed appropriately. So ultrasound helped in establishing correct diagnosis timey and decides the line of management.

Keywords: First trimester bleeding, Ultrasound examination, Clinical examination, Vaginal bleeding.

INTRODUCTION:

Vaginal bleeding during pregnancy is any discharge of blood from the vagina. It can happen any time from conception (when the egg is fertilized) to the end of pregnancy. Some women have vaginal bleeding during their first 20 weeks of pregnancy.

Vaginal bleeding during the first trimester has been estimated to occur in 16% of all pregnant women, while the frequency of spontaneous abortion is traditionally estimated as 10-20%. The clinical approach though helpful is of limited value. Despite the latest technological developments and laboratory diagnosis the desired goal of early recognition is not achieved.

Prior to the era of ultrasound diagnosing the cause of first trimester bleeding, traditionally had been based on the history, physical examination and clinical findings and confirmed by a positive or negative pregnancy test.

Vaginal bleeding in the first trimester of pregnancy can be caused by several different factors. Bleeding affects 20% to 30% of all pregnancies. Bleeding increases the risk of having miscarriage (lose the baby). Of even more concern, however, is that about 2% of all pregnancies are ectopic in location (the fetus is not inside the uterus), and vaginal bleeding can be a sign of an ectopic pregnancy. An ectopic

pregnancy may be life-threatening. All bleeding associated with early pregnancy should prompt a call to your health care professional for immediate evaluation.

- **Implantation bleeding:** There can be a small amount of spotting associated with the normal implantation of the embryo into the uterine wall, called implantation bleeding. This is usually very minimal, but frequently occurs on or about the same day as your period was due. This can be very confusing if you mistake it for simply a mild period and don't realize you are pregnant. This is a normal part of pregnancy and no cause for concern.
- **Threatened miscarriage:** You may be told you have a threatened miscarriage (sometimes also referred to as threatened abortion) if you are having some bleeding or cramping. The fetus is definitely still inside the uterus (based usually on an exam using ultrasound), but the outcome of your pregnancy is still in question. This may occur if you have an infection, such as aurinary tract infection, become dehydrated, use certain drugs or medications, have been involved in physical trauma, if the developing fetus is abnormal in some way, or for no apparent reason at all. Other than these reasons, threatened miscarriages are generally not caused by things

Conflict of interest: Authors reported none

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you do, such as heavy lifting, having sex, or by emotional stress.

- **Completed miscarriage:** You may have a completed miscarriage (also called a spontaneous abortion) if your bleeding and cramping have slowed down and the uterus appears to be empty based on ultrasound evaluation. This means you have lost the pregnancy. The causes of this are the same as those for a threatened miscarriage. This is the most common cause of first trimester bleeding.
- **Incomplete miscarriage:** You may have an incomplete miscarriage (or a miscarriage in progress) if the pelvic exam shows your cervix is open and you are still passing blood, clots, or tissue. The cervix should not remain open for very long. If it does, it indicates the miscarriage is not completed. This may occur if the uterus begins to clamp down before all the tissue has passed, or if there is infection.
- **Blighted ovum:** You may have a blighted ovum (also called embryonic failure). An ultrasound would show evidence of an intrauterine pregnancy, but the embryo has failed to develop as it should in the proper location. This may occur if the fetus were abnormal in some way and not generally due to anything you did or didn't do.
- **Intrauterine fetal demise:** You may have an intrauterine fetal demise (also called IUFD, missed abortion, or embryonic demise) if the developing baby dies inside the uterus. This diagnosis would be based on ultrasound results and can occur at any time during pregnancy. This may occur for any of the same reasons a threatened miscarriage occurs during the early stages of pregnancy; however it is very uncommon for this to occur during the second and third trimesters of pregnancy.
- **Ectopic pregnancy:** You may have an ectopic pregnancy (also called tubal pregnancy). This would be based on your medical history and ultrasound, and in some cases laboratory results. Bleeding from an ectopic pregnancy is the most dangerous cause of first trimester bleeding. An ectopic pregnancy occurs when the fertilized egg implants outside of the uterus, most often in the Fallopian tube. As the fertilized egg grows, it can rupture the Fallopian tube and cause life-threatening bleeding. Symptoms are often variable and may include pain, bleeding, or lightheadedness. Most ectopic pregnancies will cause pain before the tenth week of pregnancy. The fetus is not going to develop and will die because of lack of supply of nutrients. This condition occurs in about 3% of all pregnancies.
- **Molar pregnancy:** You may have a molar pregnancy (technically called gestational trophoblastic disease). Your ultrasound results may show the presence of abnormal tissue inside the uterus rather than a developing fetus. This is actually a type of tumor that occurs as a result of the hormones of pregnancy, and is usually not life-threatening to you. However, in rare cases the abnormal tissue is cancerous. If it is cancerous it can invade the uterine wall and spread throughout

the body. The cause of this is generally unknown.

Sonography plays important role in determining a normal foetus is present, alive and to exclude other causes of bleeding such as ectopic pregnancy, molar pregnancy and risk of miscarriages which are associated with heavy bleeding during first trimester of pregnancy. Keeping above in mind present study is undertaken to evaluate the role of ultrasound in the accurate diagnosis of causes of first trimester bleeding in pregnancy and the management of the condition.

Materials & Methodology:

This study was done in Department of Obstetrics & Gynaecology in North Indian Hospital. 100 womens had been included in the study. This womens are admitted to hospital due to the bleeding in vagina.

Inclusion Criteria :

- Positive Pregnancy Test
- Amenorrhoea for 3 months
- Bleeding observed from minimal flow to heavy flow.

Ultrasound Sonographic examination was done. Trans abdominal and Trans vaginal examination was done to observe the position of the gestational sac. Cardiac activity and Crown-rump length (CRL) of the fetus also noted. Clinical examination was done in the doubtful cases. Ectopic pregnancy diagnosed cases underwent salpingectomy.

Results & Discussion:

The data from the 100 womens are collected and present below. Table 1 indicates age of the patients and number of patients.

Table 1 : Age & No. of cases

Age	No. of cases
16-20 yrs	52
21-25 yrs	28
26-30 yrs	13
31-40 yrs	7
Total	100

Table 2 indicates Ultrasonographic diagnosis seen in the selected population.

USG Diagnosis	No. of Cases
Threatened abortions	48
Incomplete abortions	12
Missed abortions	11
Complete abortions	4
Inevitable abortions	2
Ectopic gestation	9
Molar pregnancy	8
Blighted ovum	4
Normal pregnancy	2
Total	100

The 48 patients were diagnosed as threatened abortions. 12 was diagnosed with incomplete abortions. 11 cases showed missed abortions. 4 cases showed complete abortions.

USG Diagnosis	Present Study	R.Rajan & V.Rajan	N.Malhotra Jaideep Malhotra	J.E.Drum's study	Neelam Bharadwaj study
Threatened abortions	48	54	45	32	57
Incomplete abortions	12	--	--	28	26
Missed abortions	11	5	9	11	8
Complete abortions	4	--	--	17	--
Blighted ovum	4	19	11	11	--
Inevitable abortions	2	--	3	--	--
Ectopic gestation	9	5	8	-	--
Molar pregnancy	8	16	5	1	4

The data obtained in the present study matches with the earlier reported in the study. The authors R.Rajan & V.Rajan also reported the same observation in there study.

Missed abortion (blightful ovum, intrauterine fetal demise) & inevitable abortion were confirmed quickly by Ultra Sound and this facilitated early decision for termination. Complete abortion was easily diagnosed by Ultra Sound looking at the linear endometrial echo and empty uterus.

This helped in avoiding unnecessary intervention and facilitated early discharge from hospital.

Ectopic and molar pregnancies were diagnosed accurately by Ultra Sound and managed appropriately, reducing patient morbidity & mortality.

Conclusion:

The number of cases in present study was small but it gives valuable guideline for further investigation and management of such cases. The data showed that it is the common problem in 20-30 age pregnant womens. In the present study various types of abortions constituted the commonest cause of first trimester bleeding. All cases the cases were diagnosed correctly on ultrasonography with 100% sensitivity and accuracy and managed appropriately. So ultrasound helped in establishing correct diagnosis timey and decides the line of management.

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