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Clinical evaluation of the vaginal bleeding in pregnant women's in Anugrah Narayan Magadh medical college, Gaya, Bihar

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Abstract

Vaginal bleeding in the first trimester is frequently encountered situation causing anxiety to the patient and obstetrician alike. 20-25% of pregnant women will have bleeding during early gestation. This may range from an insignificant episode to life threatening emergency. The major causes are abortion, ectopic pregnancy, and molar pregnancy. Before the advent of ultrasonography (USG), these patients were managed only clinically. Ultrasonography has revolutionized the management of early pregnancy complications. Hence based on above findings the present study was planned to evaluate The present study was planned in Department of Obstetrics and Gynaecology, Anugrah Narayan Magadh Medical College, Gaya, Bihar. Total 50 cases of the pregnant women's diagnosed with the vaginal bleeding were enrolled in the present study. The Cases were selected randomly. Patients up to 12 weeks of pregnancy calculated from the first day of the last menstrual period with bleeding per vagina were included in the study. All the patients were informed consents. The aim and the objective of the present study were conveyed to them. Approval of the institutional ethical committee was taken prior to conduct of this study.

The data generated from the present study concludes that Vaginal bleeding in the first trimester is a very common obstetric problem of pregnancy and it causes anxiety both to the patients and the obstetrician. Clinical history and pelvic examination are insufficient in assessing the cause and the outcome during follow up. Ultrasound is a non-invasive and easily available method of investigation to assess the patients with first trimester bleeding which is highly accurate in diagnosing the causes of bleeding and guides the clinician in choosing the appropriate line of management and prevents mismanagement of the cases. However, it should be remembered that ultrasound is an extension of the pelvic examination and cannot replace obstetric history and clinical examination.

Keywords: ultrasound, pelvic, USG, vaginal, Gynaecology

Introduction

Vaginal bleeding is any bleeding through the vagina, including bleeding from the vaginal wall itself, as well as (and more commonly) bleeding from another location of the female reproductive system, often the uterus [1]. Generally, it is either part of a normal menstrual cycle or is caused by hormonal or other problems of the reproductive system, such as abnormal uterine bleeding.

Vaginal bleeding during pregnancy may indicate a possible pregnancy complication that needs to be medically addressed. Blood loss per vaginam (Latin: through the vagina) (PV) typically arises from the lining of the uterus (endometrium), but may arise from uterine or cervical lesions, the vagina, and rarely from the fallopian tube. During pregnancy it is usually but not always related to the pregnancy itself. Regular monthly vaginal bleeding during the reproductive years, menstruation, is a normal physiologic process. During the reproductive years, bleeding that is excessively heavy (menorrhagia or heavy menstrual bleeding), occurs between monthly menstrual periods (intermenstrual bleeding), occurs more frequently than every 21 days (abnormal uterine bleeding), occurs too infrequently (oligomenorrhea), or occurs after vaginal intercourse (postcoital bleeding) should be evaluated. The causes of abnormal vaginal bleeding vary by age, [2] and such bleeding can be a sign of specific medical conditions ranging from hormone imbalances or anovulation to malignancy (cervical cancer, vaginal cancer or uterine cancer). In young children, or elderly adults with cognitive impairment, the source of bleeding may not be obvious, and may be from the urinary tract (hematuria) or the rectum rather than the vagina, although most adult women can identify the site of bleeding [3]. When vaginal bleeding occurs in prepubertal children or in postmenopausal women, it always needs investigation [4][5].

Vaginal bleeding occurs during 15-25% of first trimester pregnancies [6]. Of these, half go on to miscarry and half bring the fetus to term [7]. There are a number of causes including rupture of a small vein on the outer rim of the placenta. It can also herald a miscarriage or ectopic pregnancy, which is why urgent ultrasound is required to separate the two causes. Bleeding in early pregnancy may be a sign of a threatened or incomplete miscarriage.

In the second or third trimester a placenta previa (a placenta partially or completely overlying the cervix) may bleed quite severely. Placental abruption is often associated with uterine bleeding as well as uterine pain [8].

The cause of the bleeding can often be discerned on the basis of the bleeding history, physical examination, and other medical tests as appropriate. The physical examination for evaluating vaginal bleeding typically includes visualization of the cervix with a speculum, a bimanual

exam, and a rectovaginal exam. These are focused on finding the source of the bleeding and looking for any abnormalities that could cause bleeding. In addition, the abdomen is examined and palpated to ascertain if the bleeding is abdominal in origin. Typically a pregnancy test is performed as well. If bleeding was excessive or prolonged, a CBC may be useful to check for anemia. Abnormal endometrium may have to be investigated by a hysteroscopy with a biopsy or a dilation and curettage. In an emergency or acute setting, vaginal bleeding can lead to hypovolemia [9]. Postcoital bleeding is bleeding that occurs after sexual intercourse. The treatment will be directed at the cause. Hormonal bleeding problems during the reproductive years, if bothersome to the woman, are frequently managed by use of combined oral contraceptive pills.

Severe acute bleeding, such as caused by ectopic pregnancy and post-partum haemorrhage, leads to hypovolemia (the depletion of blood from the circulation), progressing to shock. This is a medical emergency and requires hospital attendance and intravenous fluids, usually followed by blood transfusion. Once the circulating volume has been restored, investigations are performed to identify the source of bleeding and address it [9]. Uncontrolled life-threatening bleeding may require uterine artery embolization (occlusion of the blood vessels supplying the uterus), laparotomy (surgical opening of the abdomen), occasionally leading to hysterectomy (removal of the uterus) as a last resort. A possible complication from protracted vaginal blood loss is iron deficiency anemia, which can develop insidiously. Eliminating the cause will resolve the anemia, although some women require iron supplements or blood transfusions to improve the anemia.

Vaginal bleeding in the first trimester of pregnancy can be caused by several different factors. Bleeding affects 20% to 30% of all pregnancies. , and many women wonder how much bleeding during pregnancy is normal. Implantation bleeding is a form of bleeding that takes place when the fertilized egg is implanted in the wall of the uterus, around the time of the expected menstrual period. Implantation bleeding is typically lighter than a usual menstrual period.

Bleeding increases the risk of having a 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, but particularly heavy or period-like bleeding during early pregnancy should prompt a call to your health care professional for immediate evaluation [10].

Implantation bleeding: There can be a small number of spots 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 a urinary 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 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 an 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.

There are risk factors for ectopic pregnancy. These include a history of prior ectopic pregnancy, history of the pelvic inflammatory disease, history of Fallopian tube surgery or ligation, history of infertility for more than two years, having an IUD (birth control device placed in the uterus) in place, smoking, or frequent (daily) douching. Only about 50% of women who have an ectopic pregnancy have any risk factors, however.

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.

Postcoital bleeding is vaginal bleeding after sexual intercourse. It may be normal during pregnancy.
Bleeding may also be caused by reasons **unrelated to**

pregnancy. For example, trauma or tears to the vaginal wall may bleed, and some infections may cause bleeding.
Vaginal bleeding in the first trimester is frequently encountered situation causing anxiety to the patient and obstetrician alike. 20-25% of pregnant women will have bleeding during early gestation. This may range from an insignificant episode to life threatening emergency. The major causes are abortion, ectopic pregnancy, and molar pregnancy. Before the advent of ultrasonography (USG), these patients were managed only clinically. Ultrasonography has revolutionized the management of early pregnancy complications. Hence based on above findings the present study was planned to evaluate the

Methodology
The present study was planned in Department of Obstetrics and Gynaecology, Anugrah Narayan Magadh Medical College, Gaya, Bihar. Total 50 cases of the pregnant women's diagnosed with the vaginal bleeding were enrolled in the present study. The Cases were selected randomly. Patients up to 12 weeks of pregnancy calculated from the first day of the last menstrual period with bleeding per vagina were included in the study. All the patients were informed consents. The aim and the objective of the present study were conveyed to them. Approval of the institutional ethical committee was taken prior to conduct of this study.
Relevant clinical history, physical examination including pelvic examination was done in all patients and a provisional clinical diagnosis was made. In all cases routine investigations like hemoglobin blood grouping and Rh-typing, urine pregnancy test by card were done. Then the patients were subjected to ultrasound examination. All the data was recorded in a proforma. In USG examination following findings were noted like uterine size, presence of gestational sac, location of the gestational sac, size of gestational age compared to the period of amenorrhea, margins of the gestational sac either intact or created, presence or absence of foetal pole, crown rump length (CRL) of gestational sac, cardiac activity, foetal movements and presence of fluid in the cul-de-sac. More recent data, particularly when considering measurement variability, have suggested that a failed intrauterine pregnancy should be diagnosed only when cardiac activity is absent in an embryo ≥7 mm, using trans-vaginal US.2 Bilateral adnexa were scanned to rule out ectopic gestation and other pathology
Following was the inclusion and exclusion criteria for the present study.
Inclusion criteria: Patients presenting anywhere from first day of last menstrual cycle to 12 weeks of pregnancy with complaints of bleeding per vagina are included in study.
Exclusion criteria: • Women of reproductive age with a missed period with negative urine pregnancy test. • Patients who refuse to get admit to the hospital. • All non-obstetrical causes of vaginal bleeding • All patients with more than 12 completed weeks of gestation.

Results & Discussion
First trimester is a very crucial period of pregnancy having high risks of pregnancy losses. Vaginal bleeding occurring in first trimester is a diagnostic challenge to the obstetrician. It causes physical and mental trauma to the patient and demands accurate diagnosis and proper management of the condition. Estimate of the prevalence of first trimester bleeding per vaginum in early pregnancy is 7 to 24%. Diagnosis thoroughly based on clinical backgrounds cannot fulfill the goal of correct diagnosis. Indeed many laboratory diagnostic tests cannot achieve the desired goal of early recognition. Before the invention of USG, clinicians of that era used to diagnose the cause of vaginal bleeding solely based on clinical history and physical examination. Diagnosis was based on the history of amount of passing blood clots and foetal parts and grape like vesicles in case of hydatidiform mole.
Bleeding in early pregnancy is an indicator of an abnormality interrupting the normal development. It is a common cause for emergency admissions. If a diagnosis of the viability or non-viability of pregnancy can be made definitely then, hormonal therapy and hospitalization can be avoided [11]. By clinical history and examination, this is usually impossible. The availability of ultrasonography has changed the scenario [12].
A new diagnosis on ultrasound was blighted ovum. It is defined as an embryonic gestation characterised by a normal appearing gestational sac but the absence of an embryo. On ultrasound, 19 (12.67%) cases were diagnosed as blighted ovum out of which 16 cases were diagnosed earlier as threatened abortion and 3 cases as missed abortion on the basis of clinical diagnosis. In a study by Sofat R. a similar incidence 12.2% of blighted ovum was observed on ultrasound [13].
Ultrasonography is an excellent tool to assess the prognosis of the pregnancy like whether the safe continuation of pregnancy is possible or not, especially in subjects who present with a poor obstetric history, vaginal bleeding or abdominal cramps in early pregnancy who pose a diagnostic challenge to the clinicians and sonographers. Clinical history and pelvic examination are inadequate in assessing the cause of bleeding and the prognosis. Ultrasound (both TAS and TVS) plays an important role in the evaluation of the causes of the first trimester bleeding, prognosis and predict the status of abnormal pregnancy. Ultrasonography is a non-invasive modality which is extremely useful to arrive at an accurate diagnosis and management of cases appropriately.
Causes of bleeding include subchorionic haemorrhage, embryonic demise, anembryonic pregnancy, incomplete abortion, ectopic pregnancy and gestational trophoblastic disease. Laboratory test and imaging technique like ultrasonography are then used to confirm or revise the initial diagnosis [14]. Ultrasound also plays a role of utmost importance in confirming the pregnancy, site of pregnancy, viability, and in predicting whether a pregnancy has a good chance of continuing or it is destined to fail or has already

failed. The three major causes of bleeding in first trimester are Abortions, Ectopic pregnancy and Gestational trophoblastic disease. Ultrasound helps in assessing the type of abortion.

Table 1: Age & No. of cases

Age	No. of cases
16-20 yrs	22
21-25 yrs	12
26-30 yrs	10
31-40 yrs	6
Total	50

Table 2: indicates Ultrasonographic diagnosis seen in the selected population.

USG Diagnosis	No. of Cases
Threatened abortions	26
Incomplete abortions	6
Missed abortions	5
Complete abortions	2
Inevitable abortions	2
Ectopic gestation	4
Molar pregnancy	2
Blighted ovum	2
Normal pregnancy	1
Total	50

Table 3: Comparison of Previous Study and Current Findings

USG Diagnosis	Present Study	R. Rajan & V. Rajan [15]	N. Malhotra Jaideep Malhotra [16]	J.E. Drum's study [17]	Neelam Bharadwaj Study [18]
Threatened abortions	26	54	45	32	57
Incomplete abortions	6	--	--	28	26
Missed abortions	5	5	9	11	8
Complete abortions	2	--	--	17	--
Blighted ovum	2	19	11	11	--
Inevitable abortions	2	--	3	--	--
Ectopic gestation	4	5	8	-	--
Molar pregnancy	2	16	5	1	4

Lyer and Bhattacharya [19] in their evaluation of 200 patients of complicated first trimester clinically and by ultrasonography found that of the 74 patients clinically diagnosed as threatened abortions, only 36 showed supporting ultrasonographic findings. USG was diagnostic of nonviable pregnancy in 34. 8 of the 40 patients suspected to have a missed abortion were- actually diagnosed as normal viable pregnancies, and 2 cases had an empty non-pregnant uterus. In 2 clinically diagnosed as complete abortion, significant products of conception were seen on USG. 12 of the 18 cases suspected of having a delayed period turned out to be either missed abortion or incomplete abortion. 6 of the 12 cases with suspected vesicular mole, 6 patients suspected of ectopic pregnancy, and two fibroid uterus were diagnosed on USG as having normal viable pregnancies. Judicious use of ultrasonography was advocated in the management of early pregnancy complications.

Ultrasonography has opened new dimensions in early pregnancy complications so that specific treatment, medical or surgical, can be immediately instituted. Accurate diagnosis of the nature of the pregnancy (viable or non-viable) can avoid unnecessary hormonal treatment and prolonged hospitalisation. It also indicates the need for a dilatation and currett age by diagnosing retained products in the uterine cavity. Ultrasonographic examination should be done at the earliest possible period so as to confirm the clinical findings.

The sonographic landmarks of the first trimester pregnancy have been well recognised and they include identification of the gestational sac, fetal pole, fetal cardiac activity, movements, yolk sac and the amnion. The invaluable role of these landmarks, the gestational sac and fetal biometry in diagnosing pathological pregnancies and predicting the pregnancy outcome has been clearly documented by Decherney *et al.* [20]

Conclusion

The data generated from the present study concludes that Vaginal bleeding in the first trimester is a very common obstetric problem of pregnancy and it causes anxiety both to the patients and the obstetrician. Clinical history and pelvic examination are insufficient in assessing the cause and the outcome during follow up. Ultrasound is a non-invasive and easily available method of investigation to assess the patients with first trimester bleeding which is highly accurate in diagnosing the causes of bleeding and guides the clinician in choosing the appropriate line of management and prevents mismanagement of the cases. However, it should be remembered that ultrasound is an extension of the pelvic examination and cannot replace obstetric history and clinical examination.

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