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Original Research

Use of Ultrasonograph for the Detection of threatened abortion

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***ABSTRACT*:)**

Background: First trimester pregnancy is a dynamic period that spans ovulation, fertilization, implantation and organogenesis. The present study was conducted to assess the cases of threatened abortion with ultrasound. **Materials & Methods:** This study was conducted on 58 pregnant women. A detailed clinical history and Ultrasound examination (USG) was performed in all patients using Aloka SSD-500 with frequency convex probe and Honda SSD-500 with frequency convex probe. **Results:** 11 cases were seen below 20 years of age, 24 were in 20-25 years age group, 10 were in 25-30 years, 13 were beyond 30 years of age. The difference was significant (P< 0.05). Ultrasound findings were threatened abortion in 31, missed abortion in 14, blighted ovum in 3, incomplete abortion in 4, complete abortion in 2, Hydatidiform mole in 3 and Pregnancy with Cu-T in 1. The difference was significant (P< 0.05). **Conclusion:** Ultrasonography is a useful tool in first trimester bleeding. Common findings were threatened abortion, brighted ovum, missed abortion and complete abortion.

Key words: Threatened abortion, hydatidiform mole, Ultrasonography.

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INTRODUCTION

First trimester pregnancy is a dynamic period that spans ovulation, fertilization, implantation and organogenesis. Vaginal bleeding occurring in early pregnancy poses a diagnostic challenge to the obstetrician. It is a symptom which frequently heralds an abnormality, interrupting the normal development of an early gestation.[1]

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.[2]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.[3]

An ultrasound diagnosis of fetal demise may be made when there is no fetal heart in a fetus with fetal pole >7mm when using transvaginal ultrasound. A diagnosis of pregnancy loss may also be made if the mean gestational sac diameter exceeds 20 mm in the absence of a yolk sac or embryo. Particular care should be taken to scan all of the sac in a longitudinal and vertical plain. The mean sac diameter should be measured in 3 diameters and averaged.[4] The area of the fetal heart should be observed for a prolonged period of at least 30 seconds to ensure that there is no cardiac activity. The use of transvaginal ultrasound should be encouraged as better visualization is nearly always possible.[5] The present study was conducted to assess the cases of threatened abortion with ultrasound.

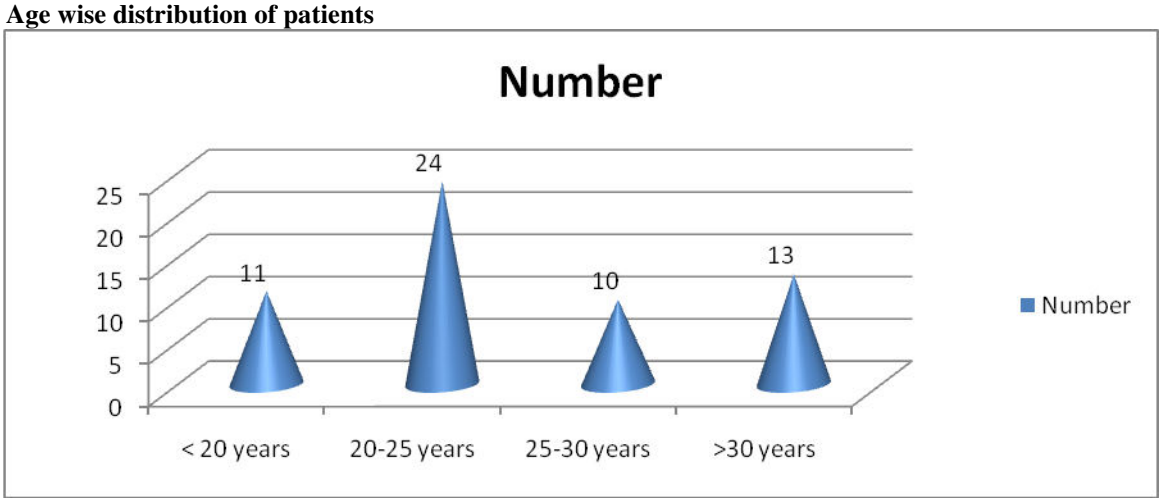
MATERIALS & METHODS

This study was conducted in department of Radiodiagnosis. It comprised of 58 pregnant women. Ethical approval was obtained prior to the commencement of the study. Patients were informed regarding the study and written consent was obtained.

General information such as name, age, etc. was recorded. A detailed clinical history and Ultrasound examination (USG) was performed in all patients using Aloka SSD-500 with frequency convex probe and Honda SSD-500 with frequency convex probe. Results were subjected to statistical analysis. P value < 0.05 was considered significant.

RESULTS

Table I Age wise distribution of patients

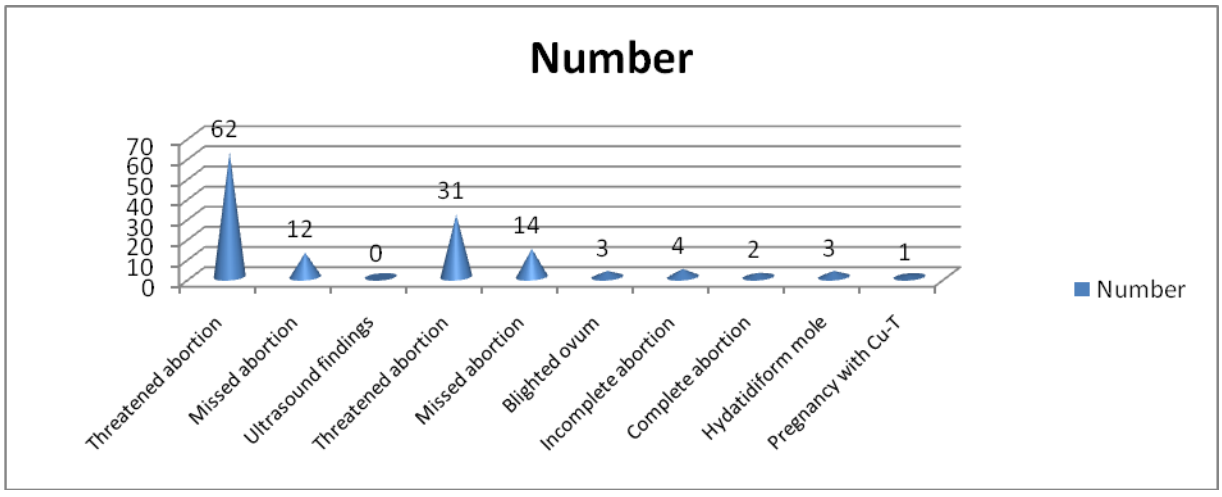


Graph I shows that 11 cases were seen below 20 years of age, 24 were in 20-25 years age group, 10 were in 25-30 years, 13 were beyond 30 years of age. The difference was significant (P< 0.05).

Table II Clinical diagnosis with USG

Ultrasound findings	USG	P value
Threatened abortion	31	0.01
Missed abortion	14	
Blighted ovum	3	
Incomplete abortion	4	
Complete abortion	2	
Hydatidiform mole	3	
Pregnancy with Cu-T	1	

Table II, graph I shows that ultrasound findings were threatened abortion in 31, missed abortion in 14, blighted ovum in 3, incomplete abortion in 4, complete abortion in 2, Hydatidiform mole in 3 and Pregnancy with Cu-T in 1. The difference was significant (P< 0.05).



DISCUSSION

Different cutoffs for diagnosing miscarriage apply when using transabdominal ultrasound. If transvaginal ultrasound is not available or not acceptable to a woman, transabdominal ultrasound criteria for fetal demise can be made when there is no fetal heart in an embryo measuring >8 mm.[6] Similarly, if the mean gestational sac diameter is > 25 mm in the absence of a yolk sac or embryo, a diagnosis of fetal demise can be made using transabdominal ultrasound. If there is no sign of either intra or extra-uterine pregnancy or retained products in a woman with a positive pregnancy test, this should be described as a pregnancy of unknown location. [7]

Ultrasonography has opened new dimensions in the diagnosis of first trimester bleeding so that specific treatment with medical or surgical can be immediately instituted accordingly. Accurate diagnosis of nature of the pregnancy (viable/non-viable) can avoid unnecessary hormonal treatment and prolonged hospitalization to the patients, unnecessary curettages and its complications such as septicaemia.[8] The present study was conducted to evaluate the cases of first trimester bleeding using ultrasound.

In this study, 11 cases were seen below 20 years of age, 24 were in 20-25 years age group, 10 were in 25-30 years, 13 were beyond 30 years of age. Achiron R et al[9]in their study found that out of 102 cases of first trimester bleeding, 58 cases were diagnosed as threatened abortion clinically and ultrasound examination confirmed 40 cases. Out of 58 cases of threatened abortions, 31 cases continued to term gestation with success full outcome of 30.4%. All cases of threatened abortion (n=45), Incomplete abortion (n=25), Complete abortion (n=11), Missed abortion (n=6), Ectopic gestation (n=6), Inevitable abortion (n=3), Hydatidiform Mole (n=3), Early Embryonic Demice (n=1), An-embryonic Gestation (n=2) and were correctly diagnosed on USG and managed accordingly. Out of 102 cases all 102 cases were correctly diagnosed on ultrasound with 100% accuracy and sensitivity compared to 65 out of 102 cases on clinical diagnosis with a disparity of 36.2%.

We found that ultrasound findings were threatened abortion in 31, missed abortion in 14, blighted ovum in 3, incomplete abortion in 4, complete abortion in 2, Hydatidiform mole in 3 and Pregnancy with Cu-T in 1. Wittmann et al[10] found that among these 75 cases, threatened abortion was the commonest cause for bleeding. This was observed in 30 cases (40%). Out of them, 21 cases had full term delivery (70%). 4 cases had preterm vaginal delivery (13.33%), 3 cases ended in spontaneous abortion and 2 patients with threatened abortion underwent MTP and tubectomy. There were 15 (20%) cases of missed abortion. In 8 (10.66%) cases of blighted ovum, none of them were diagnosed clinically but ultrasound diagnosis was done accurately in all and confirmed after histopathological report. There were 4 (5.33%) cases of ectopic pregnancy. All 4 were tubal pregnancies. All 4 patients underwent emergency laparotomy and unilateral salpingectomy. There were 3 cases of vesicular mole. The diagnosis was confirmed by ultrasound in 2 cases and one case was misdiagnosed by ultrasound as missed abortion. Molar pregnancy was diagnosed after evacuation and confirmed with histopathological examination.

CONCLUSION

Authors found that Ultrasonography is a useful tool in first trimester bleeding. Common findings were threatened abortion, brighted ovum, missed abortion and complete abortion.

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