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Correlation of Clinical Diagnosis with Ultrasound Findings in First Trimester Bleeding.

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ABSTRACT

This is a cross sectional study conducted in 300 patients admitted in the labour ward with first trimester bleeding. To correlate the effectiveness of clinical diagnosis with ultrasonogram findings in first trimester bleeding, to evaluate the usefulness of ultra sonogram in differential diagnosis of vaginal bleeding in first trimester, to evaluate the prognostic value of ultrasonogram in threatened abortion diagnosed and to diagnose coincedental abnormalities.Clinical and ultrasound diagnosis in first trimester bleeding complement each other for providing better patient care, prompt diagnosis and reduce the complications and reduce the morbidity.

Keywords: Vaginal bleeding,Crown rump length,Threatened abortion,Ectopic pregnancy.

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INTRODUCTION

Vaginal Bleeding occurring in an early pregnancy pose diagnostic challenges for both obstetrician and sonologist. It is a symptom that frequently interrupts the normal development of early gestation. Despite the latest technological development and laboratory diagnosis the desired goal of early recognition is often not-achieved.

Vaginal bleeding during first trimester has been estimated to occur in 16% of all pregnant women while frequency of spontaneous abortion is estimated at 10-20%.Prior to the era of ultra sonogram, diagnosing the cause of bleeding in First Trimester has been based on history and clinical findings and often confirmed by positive or negative pregnancy test. These are neither specific in indicating the cause of bleeding nor they aid in decision-making.

Ultrasononography is quick and useful in diagnosing intrauterine pregnancy and excluding an ectopic pregnancy when used together with clinical examination. In this instance, ultrasound examination of uterus and adnexae has been shown to be a reliable means of obtaining a clear picture of pathology of first trimester bleeding. Since its introduction technology has increased to such an extent that it is now possible to detect an intra uterine gestational sac as early as first week of missed period [1-10].

MATERIALS AND METHOD

This study was conducted in sree balaji medical college and hospital on 300 patients admitted in Labour ward with first trimester bleeding are selected for the study based on inclusion and exclusion criteria, after obtaining permission from the ethical committee.

Method of collection of data

Study design: A single centre, cross sectional study.
Place of study : Sree balaji medical college and hospital
Study period : August 2012 – August 2013
Sample size :300

Inclusion criteria

All Proved pregnant women who present with complaints of vaginal bleeding before 12 weeks of gesational age.

Exclusion criteria

All local lesions of cervix including polyp
Already diagnosed bleeding diathesis on anticoagulants

Materials

Machine: Two – Dimensional trans abdominal ultrasound machine and Transvaginal study in case where there is difficulty in visualization like obese abdomen. Sonar isa non- invasive procedure and has been proved to be absolutely safe to theconceptus inspite of repeated exposures at any stage of pregnancy.

Methods of study

Patients fulfilling the inclusion criteria are selected for a detailed history and thorough Transabdominal ultrasound is done for everybody and transvaginal ultrasound in case there is difficulty in visualization like obese abdomen is done gently. Written informed consent inthe local language is given to all subjects undergoing the study and signature will be obtained for all subjects.

The patients were followed up accordingly. Patients with ultrasound findings of Threatened abortion were followed up with repeat ultrasound examinations and then outcome were

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studied.Patients with features of missed abortion and Blighted ovum in ultrasound examination were subjected to Digital evacuation and curettage. Patients with features of molar pregnancy in ultrasound examination were subjected to evacuation.

RESULTS

TABLE 1: AGE DISTRIBUTION

AGE	NUMBER	PERCENTAGE
< 20	18	6
20 – 25	124	41.4
25 – 30	128	42.6
> 30	30	10
Total	300	100.0

TABLE 2 : PARITY DISTRIBUTION

	Number	Percentage
Primi	108	36
Multi	192	64

TABLE-3:OUTCOME IN FIRST TRIMESTER BLEEDING.

	Clinical Diagnosis		USG Diagnosis		Final Diagnosis	
	No	%	No	%	No	%
Threatened Abortion	138	46	98	32.67	86	32.67
Missed Abortion	44	14.67	64	21.33	64	21.33
Blighted Ovum	-	-	34	11.33	34	11.33
Incomplete Abortion	54	18	50	16.67	50	16.67
Complete Abortion	14	4.67	6	2	6	2
Vesicular mole	6	2	10	3.33	10	3.33
Ectopic Pregnancy	44	14.67	38	12.67	38	12.67
COINCIDENTAL FINDINGS						
Ovarian cyst complicating pregnancy	-	-	6	2	6	2
Fibroid complicating Pregnancy	2		2		2	
Bicornuate uterus	-	0	4		4	

TABLE-4:FALLACY RATE OF CLINICAL DIAGNOSIS

No	Clinical Diagnosis	No of false Diagnosis	Fallacy Rate
1	Threatened Abortion (138)	40	36.76
2.	Ectopic Pregnancy (44)	6	13.64
3.	Complete abortion (14)	8	57.41

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TABLE 5 : CORRELATION BETWEEN MENSTRUAL AGE AND CLINICAL ASSESSMENT

No	Menstrual age in weeks	Correlation		No Correlation	
		No	%	No	%
1.	8 weeks and less Total No of patients (114)	36	31.43	78	68.57
2.	8weeks - 10weeks Total Number of patients(156)	76	49.02	80	50.98
3.	10weeks - 12 weeks Total Number of patients (30)	10	31.25	20	68.75

TABLE 6: SYMPTOMS - DURATION OF BLEEDING AND OUTCOME

Outcome	Less than 3 days		More than 3 days	
	No	%	No	%
Favorable	86	37.06	6	8.82
Un favorable	146	62.93	62	91.18

TABLE 7: OUTCOME IN ULTRASOUND DIAGNOSIS OF THREATENED ABORTION

Number	Outcome	Number	Percentage
1.	Term fetus	74	75.61
2.	Preterm Fetus	12	12.20
3.	II trimester abortion	5	4.88
4.	I trimester abortion	7	7.31

TABLE 8:DIAGNOSIS OF PREGNANCY FAILURE BY ULTRASOUND

S.No.	Type of Pregnancy Failure	Number	Percentage
1.	Blighted Ovum	34	11.33
2.	Missed abortion	64	21.33
3.	Incomplete abortion	50	16.67
4.	Complete abortion	6	2

TABLE 9:ULTRASOUND DIAGNOSIS OF GESTATIONAL TROPHOBLASTIC DISEASE

Outcome	Number	Percentage
complete molar degeneration	8	80
Partial molar degeneration	2	20

TABLE 10 : MANAGEMENT MODALITIES OF THE STUDY

S.No	Management	Number	Percentage
1.	Antenatal follow up and repeat scan.	86	25.33
2.	Digital Evacuation & curettage	98	32.67
3.	Suction Evacuation and curettage	60	20
4.	Laparotomy for Ectopic pregnancy	26	8.67
5.	Laparoscopy for Ectopic pregnancy	8	2.67
6.	Medical Management of Ectopic Pregnancy	4	1.33
6.	Readmission for spontaneous abortion	4	1.33

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DISCUSSION

Ultrasound is a non invasive, easily accessible and highly diagnostic tool in the modern era of obstetrics.Accurate diagnosis and proper intervention is mandatory to save not only the fetus but also the mother. Hence the differential diagnosis must be kept in mind before deciding further management.

Depending upon the correct diagnosis the management may vary from conservative observation to invasive laparotomy.Ultrasonography nowadays has become a single most effective tool in diagnosing all the causes of first trimester bleeding. Ultrasound diagnosis aids the clinical diagnosis in the correct line of management thereby, reducing the hospital stay, anxiety and in few cases it avoids unnecessary laprotomy.In our study, 6% of the patients were in less than 20 years, 41.3% were between 20-25 years, 42.6 % were between 25-30 years 10% were above 30 years.

THREATENED ABORTION

In our study 32.67% of cases diagnosed as threatened abortion.Out of these cases of threatened abortion with viable fetus,93.33% continued for term pregnancy and had healthy term infants. Early diagnosis,timely intervention & necessary treatment initiated immediately has culminated in improving the viability outcome.

ANEMBRYONIC PREGNANCY

In our study 11% of cases diagnosed as anembryonic pregnancy. These patients underwent dilatation and curettage. Irregular sac in ultrasound almost confirms the non-viability of the conceptus.In our study, 68 cases had irregular sac. All of them resulted in nonviable pregnancy and termination of pregnancy with a specificity of 100%.

ABSENCE OF FETAL POLE AND PREGNANCY OUTCOME

Absence of fetal heart rate was diagnosed in 64 cases, all of which ended in termination with 100% specificity.

Ultrasound has been proved to be the diagnostic tool in the diagnosis of incomplete abortion. In our study, incomplete abortion was diagnosed by ultrasound examination with 100% specificity in 16.67% of cases. Digital evacuation and curettage was done immediately.

COMPLETE ABORTION

Ultrasonography confirms complete abortion (2% of cases) with reliability. It avoids unnecessary Digital evacuation and curettage, an invasive procedure for the patient.

GESTATIONAL TROPHOBLASTIC DISEASE

Out of 300 cases molar pregnancy was diagnosed in 10 cases by ultrasound. Of these 10 cases, 6 cases were diagnosed clinically. The uterus size was greater than period of amenorrhoea in these 6 cases. Suction evacuation and curettage were done. The specimen sent for histopathological examination. Follow up with quantitative estimation of Serum β HCG were done.

ECTOPIC PREGNANCY

Ectopic pregnancy was diagnosed in our study in 12.67% of cases. Since our study is conducted in a tertiary referral centre,many cases were referred late and hence emergency Laparotomy was done in 68.42%Laproscopy was done in 21.05% and medical management with Inj.Methotrexate and follow up with serial β- HCG was done in 10.53% of cases.

Ovarian cysts were diagnosed along with pregnancy as associated condition in 6 cases. Of these 6 were functional cysts. A hemorrhagic cyst was present in left ovary in one case of ectopic pregnancy.

Left ovarian cystectomy was done during laparotomy. On the right side, ampullary portion of the tube was the site of ectopic pregnancy and Salphingo Oophorectomy was done on right side. Two cases of fibroid uterus was diagnosed along with pregnancy.One was an intramural fibroid if size 4.5 x3.5 cms and the other was a subserous fibroid of size 3.5 x 2.8 cm. Four cases of bicornuate uterus was diagnosed by USG.

CONCLUSION

Ultra Sonography has been proved as an important diagnostic modality in obstetrics. It is an easy available, diagnostic modality and it helps in the earlier diagnosis of complications of first trimester bleeding. In the study it was demonstrated that it played an important part in diagnosis of first trimester bleeding. This diagnosis helped in prompt treatment of first trimester pregnancy in a better manner before any complication could develop.Thus clinical and ultrasound diagnosis in first trimester bleeding complement each other for providing better patient care, prompt diagnosis and reduce the complications and reduce the morbidity. By earlier diagnosis not only the mortality and morbidity are reduced but also the earlier management reduced the hospital stay of the patients. Ultrasound has been shown by many authors to be a safe rapid and extremely accurate aid in diagnosis.

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