

1. Brown, F. J., Ray, Z. and Mitchell, J. A. M. 1981. 21:121-124.
2. Fisher, M., Dwyer, G. and Kumar, R. 1981. 21:125-128.
3. Chandra, P. 1977-1978. M.M.W.S. 11:301-304.
4. Chandra, P. 1979. 11:305-308.
5. Chandra, P. 1980. 11:309-312.
6. Chandra, P. 1981. 11:313-316.
7. Chandra, P. 1982. 11:317-320.
8. Chandra, P. 1983. 11:321-324.
9. Chandra, P. 1984. 11:325-328.
10. Chandra, P. 1985. 11:329-332.
11. Chandra, P. 1986. 11:333-336.
12. Chandra, P. 1987. 11:337-340.
13. Chandra, P. 1988. 11:341-344.
14. Chandra, P. 1989. 11:345-348.
15. Chandra, P. 1990. 11:349-352.
16. Chandra, P. 1991. 11:353-356.
17. Chandra, P. 1992. 11:357-360.
18. Chandra, P. 1993. 11:361-364.
19. Chandra, P. 1994. 11:365-368.
20. Chandra, P. 1995. 11:369-372.

ULTRASONOGRAPHY IN THE DIAGNOSIS OF BLEEDING PER VAGINUM DURING PREGNANCY

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SUMMARY

The overall accuracy rate of ultrasonic diagnosis was 95.5% in our series. The ultrasonic examination of the uterus especially the gravid uterus in general presents no problem and has proved to be a noninvasive and reliable diagnostic aid in the patients with bleeding during pregnancy. It helps the patient as well as the obstetrician by giving the correct diagnosis so as to have a correct plan of treatment.

INTRODUCTION

The first twelve weeks of intrauterine life are the most crucial period (Donald, and Abdulla 1967; Scott, 1972), needs a careful eye on the growing foetus inside. Bleeding and pain in pregnancy are the common conditions encountered in day to day obstetrics especially in first trimester. Many a times it becomes difficult to diagnose them clinically and so to give a definite treatment to the patient. This stage is troublesome for the patient as well as for the obstetrician, at the same time there is wastage of money, man power and time along with an unnecessary

prolonged stay in the hospital in state of agony. These all problems can be swiftly managed by the help of a safe, quick and easy modality of diagnosis i.e. ultrasound scanning. The present study was undertaken to find out the causes of bleeding during pregnancy in different trimester and the accuracy of ultrasonic diagnosis in diagnosing these conditions.

MATERIAL AND METHODS

A total of 150 patients were selected for the study of these 150 cases, 50 cases were taken as control from all the three trimesters of pregnancy who had no bleeding P/V during pregnancy. One hundred cases of bleeding P/V were taken of which 50 cases were in the first trimester of pregnancy and another fifty in 2nd and 3rd

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trimester of pregnancy. The patients were evaluated and a clinical diagnosis was made. The ultrasound examination was carried out in all the cases within 48 hours of admission. It was carried out with the Siemens Ultrasound equipment (Imager 2380) with real time linear scanner with 3.5 MHz transducer.

The gestational age, foetal malformation and condition of the placenta was noted and the cause of bleeding was diagnosed. Full bladder technique was used in first trimester of pregnancy and partially full bladder technique in 2nd and 3rd trimester of pregnancy. All the patients were followed up till their abortion, delivery or operation.

RESULT

The clinical diagnosis made in 100 patients with vaginal bleeding is shown in Table I. Majority (48 per cent) were clinically diagnosed as threatened abortion. The Ultrasonic diagnosis made in these patients is shown in Table II. The

ultrasonic diagnosis in 48 patients clinically diagnosed as threatened abortion is shown in Table III. Of 48 patients of threatened abortion, only 24 patients were found to be patients of threatened abortion by ultrasound. Of 5 clinically diagnosed missed abortion, the ultrasonic diagnosis was missed abortion in 2 cases, blighted ovum in 2 cases and molar pregnancy in one case. All the 6 cases of ectopic gestation were confirmed by ultrasound. Of 6 clinically diagnosed incomplete abortions there were 4 incomplete abortion, 1 threatened abortion and 1 complete abortion. Of 7 molar pregnancies, 6 were molar pregnancy and 1 was threatened abortion. Of 23 clinically diagnosed placenta praevia, 16 were placenta praevia while the rest of the 7 were normal placenta and in these 7 patients no cause could be determined. Of 5 accidental haemorrhage, only 1 case was of accidental haemorrhage while rest 4 were normal. Table IV shows the comparative study of clinical and ultrasonic diagnosis. Ultrasonic diagnosis was

TABLE I
Clinical Diagnosis in patients with bleeding P/V.

Threatened abortion	...	48
Placenta praevia	...	23
Molar pregnancy	...	7
Incomplete abortion	...	6
Ectopic pregnancy	...	6
Missed abortion	...	5
Accidental haemorrhage	...	5
		<hr/> 100

TABLE II
Ultrasonic diagnosis in patients with bleeding P/V.

Threatened abortion	...	26
Placenta praevia	...	23
Molar pregnancy	...	11
Normal placenta	...	11
Missed abortion	...	9
Incomplete abortion	...	7
Ectopic pregnancy	...	6
Inevitable abortion	...	3
Blighted Ovum	...	2
Complete abortion	...	1
Accidental haemorrhage	...	1
		<hr/> 100

TABLE III

Ultrasonic diagnosis in 48 cases
of clinically diagnosed threatened abortion

Threatened abortion ...	24 (50%)
Missed abortion ...	7 (14.5%)
Placenta praevia ...	7 (14.5%)
Molar pregnancy ...	4 (8.3%)
Incomplete abortion ...	3 (6.2%)
Inevitable abortion ...	3 (6.2%)
	48

sis is inevitable or incomplete abortion. This statement stands true in most of the instances but it may prove incorrect in quite a high percentage of cases. These symptoms may mislead the diagnosis resulting in delayed definite management. Even if the embryo is dead bleeding may stop after some time or there can be only slight spotting thus putting the patient as well as the obstetrician in a state of dilemma. The size of the uterus may not be significantly smaller than the period of amenorrhoea and the pregnancy test may remain positive long after the foetal death in cases of missed abortion. It is important to differentiate between live or dead embryo in all cases of bleeding in pregnancy. Immunological test of detection of pregnancy by the detection of hu-

TABLE IV

Comparison of Clinical and Ultrasonic diagnosis

Diagnosis	Clinical Dx.	Sonar Dx.	% of accuracy of Clinical Diagnosis
Threatened abortion	48	26	54.5%
Placenta praevia	23	16	65.2%
Molar pregnancy	7	6	85.7%
Incomplete abortion	6	4	66.6%
Ectopic pregnancy	6	6	100.0%
Missed abortion	5	2	40.0%
Accidental haemorrhage	5	1	20.0%

found to be correct in 95.5 per cent cases.

DISCUSSION

The clinical diagnosis of threatened abortion is based on the history of slight vaginal bleeding or reddish brown discharge while if there is heavy bleeding associated with passage of clots and lower abdominal cramp, the clinical diagno-

man chorionic gonadotrophin hormone may be false negative or false positive.

Donald and Abdulla (1967) scanned 63 patients of threatened abortion of which only 56 patients (84.6 per cent) had confirmed diagnosis of threatened abortion on scanning while in 4 cases there was no evidence of pregnancy, 2 had molar pregnancy and 1 had missed abortion.

Drum (1981) scanned 1152 patients with clinical diagnosis of threatened abortion while scanning revealed threatened abortion only in 375 (32.5 per cent), missed abortion in 124 (10.8 per cent), blighted ovum in 128 (11.1 per cent), incomplete abortion in 324 (28.1 per cent), complete abortion in 200 (17.4 per cent) and molar pregnancy in 1.

The diagnosis of blighted ovum is made by identifying a normal size or small gestational sac in which no foetal shadows are seen or when only a few indistinct echoes were obtained within the sac. These patients are however treated conservatively as far as possible and in few of them rescanning was done 1-2 weeks later because Donald et al (1972) and Drum (1975) pointed out that there is always a possibility of erroneous diagnosis of blighted ovum in some cases. Platt

(1980) scanned 22 patients with clinical diagnosis of foetal death but on scanning 8 (36 per cent) of them had live foetus. Drum (1981) had emphasized the necessity of repeated examination of the uterine contents by ultrasound before drawing conclusions. He stressed that single examination of the products of conception was rarely conclusive except in cases of molar pregnancy and missed abortion which could be diagnosed by single ultrasonic examination.

REFERENCES

1. Donald I, Abdulla U. *Brit. J. Radiol* 40:604, 1967.
2. Donald I, Morley P, Barnett E. *J Obstet Gynec, Brit C'wealth* 79:304, 1972
3. Drum JE, *Clinch J. Brit. Med. J.* 2:424, 1975
4. Drum JE, *Progress in Obstet. Gynae.* 1, 30:1981
5. Platt LD, Manning FA, Hill IIM, *Am J Obstet Gynec.* 136:693, 1980
6. Scott, JR. *Am J Obstet Gynec.* 113:329, 1972

SUMMARY

The knowledge of cervical dimensions in normal pregnancy at various periods of gestation is extremely important for early diagnosis of incompetent cervix. A prospective study in 100 pregnant women was done to evaluate the cervical measurements namely, length of cervical canal, width of internal os and thickness of anterior wall of lower uterine segment (LUS); and the findings correlated with foetal outcome. Thirty two women who delivered at term had a mean cervical length varying from 4.81 - 4.3 cm at 10 to 28 weeks of gestation. Mean diameter of internal os was 1.9 cm and average thickness of anterior wall of LUS varied from 1.03 - 0.8 cm.

MATERIAL AND METHODS

A total of 100 cases were entered out of 1000 referred for prenatal diagnosis to the Department of Obstetrics and Gynaecology, G.T.B. over a period of 30 months from Feb. 1980 to Sept. 1980. The first ultrasound examination was performed at 10 weeks gestation followed by subsequent scans at 4 weekly intervals. Cervical length, width of internal os, thickness of anterior wall of LUS were measured. These patients were followed till term and foetal outcome noted. Transabdominal sector scanner was used (3.2 MHz). Patients were called with partially filled bladder. Serial scans were performed longitudinally.

INTRODUCTION

The Gray Scale ultrasonography is a useful tool in defining cervical anatomy and has been used in diagnosing cervical incompetence (Vandano and Rivicki 1982, Laidin 1982). Present study was undertaken to establish normal range of cervical dimensions in pregnancy at different gestational ages and to document parameters of cervical incompetence.

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