

A Study on Early First Trimester Ultrasound and its Benefits



MEDICAL SCIENCE

KEYWORDS : First trimester, Dating scan, Ectopic Gestation, Multiple pregnancy

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ABSTRACT

This study on the benefits of early first trimester ultrasound was done to share our experience on clinical presentation and ultrasonographic findings in all patients attending the out patient department at Chettinad health city in their first trimester of pregnancy between 6-9 weeks of gestation. This is a prospective study conducted over a period of 3yrs (june2013-june 2016).A detailed clinical, menstrual and treatment history was obtained from each patient(4).Ultrasound was done with multifrequency convex 2.5- 6 MHz or by transvaginal 6-10 MHz (1).

A total of 834 antenatal patients between 6-9 weeks were screened.156 Patients represented with symptoms like pain abdomen, spotting or bleeding per vaginum.Early diagnosis of missed abortion in 32 patients, molar pregnancy in 8 patients, multiple pregnancy in 14 patients(2 MCMA and 1 MCTA). Pregnancy with fibroid in 12 patients, uterine anomalies in 3 patients(2-bicornuate uterus and 1-unicornuate uterus), 26 ectopic pregnancies of which 20 were unruptured and successful medical management in 15 were diagnosed by USG done between 6-9 weeks of gestation.

INTRODUCTION:

Obstetric ultrasonography is the application of medical ultrasonography to obstetrics, in which sonography is used to visualize the embryo/fetus in the uterus. The procedure is a standard part of pre natal care as it yields a variety of information regarding the fetus and the progress of pregnancy (2). Early dating scan is done between 6-9 weeks, as dating before this period does not measure the full length of embryo and therefore an underestimated CRL is obtained. The accuracy of dating when measured between 6-9 weeks is +/- 3 days. When compared to 11-13 weeks which is +/- 5 days (3).

MATERIALS AND METHODS:

Prospective study done over a period of 3 years (June 2013- June 2016)

INCLUSION CRITERIA:

All patients attending the antenatal clinic in their first trimester of pregnancy between 6-9 weeks.

EXCLUSION CRITERIA:

Pregnancy more than 10 weeks of gestation.

RESULTS:

Study was done in a total of 834 patients. Out of that 156 patients presented with varying symptoms and 678 patients were asymptomatic. Out of the 834 patients, 553 patients(66.3%) had normal USG findings , 247 patients (29.61%) had abnormal obstetric findings in USG , and remaining 34 patients (4.07%) had other findings like renal calculi, mesenteric cyst etc Of the total 834 patients(n) , the following findings were obtained:

Abortions	168 (20.14%)	Missed abortion	32(3.84%)
		Threatened abortion	82(9.83%)
		Incomplete abortion	33(3.96%)
		Blighted ovum	21(2.52%)
		Ectopic gestation	26 (3.11%)
		unruptured	20

Molar pregnancy	8 (0.96%)		
Multiple gestation	14 (1.68%)	DCDA	7
		MCDA	4
		MCMA	2
		MCTA	1
Fibroid with pregnancy	16 (1.92%)		
Adnexal cyst with pregnancy	12 (1.44%)		
Uterine anomalies	3 (0.36%)	Bicornuate uterus	2
		Unicornuate uterus	1

Abortions were detected early and adequate management was given.

Ectopic gestation was diagnosed early as well.26 patients were diagnosed to have ectopic gestation, of which 6 pregnancies were ruptured gestations with haemoperitoneum and 20 pregnancies were unruptured. Successful medical management with methotrexate was given to 15 patients and laprotomy for 2 and laproscopic salpingectomy for 3 patients Uterine anomalies were also detected better and long term management was planned in 3 patients (0.36%)

Among the 678 Asymptomatic patients, the following ultrasonographic findings were obtained :

Missed Abortion	22 (3.24%)
Threatened abortion	10 (1.47%)
Blighted ovum	14 (2.06%)
Unruptured Ectopic	8 (1.179%)
Molar pregnancy	1 (0.14%)
Multiple gestation	12 (1.77%)
Fibroid with pregnancy	14 (2.06%)
Adnexal cyst	11 (1.62%)
Bicornuate uterus	1 (0.14%)
Unicornuate uterus	1 (0.14%)

Among the 156 Symptomatic patients, the following ultrasonographic findings were obtained :

Missed Abortion	10 (6.41%)
Threatened abortion	72 (46.15%)
Incomplete abortion	33 (21.15%)
Blighted ovum	7 (4.48%)
Ectopic gestation	18 (11.54%)
Molar pregnancy	7 (4.48%)
Multiple gestation	2 (1.28%)

Fibroid with pregnancy	2 (1.28%)
Adnexal cyst	1 (0.64%)
Bicornuate uterus	1 (0.64%)
Unicornuate uterus	- (0%)

DISCUSSION:

Ultrasound done between 6-9 weeks gives much more valuable information like ectopic pregnancy, molar pregnancy and allows better management options. Dating accuracy is more accurate with early dating scan(+/- 3 days). The counseling and planning of fetal reduction can also be done in multiple gestation earlier. Early interventions for threatened abortions and better outcome is achieved. Early diagnosis of missed abortions and poor quality embryos.

Safety of obstetric ultrasonography was proved by randomized controlled trials that followed upto 8-9 years with no difference in vision, hearing, school performance, dyslexia, speech or neurologic development. It was rather beneficial in reducing perinatal morbidity and mortality⁽⁵⁾.

CONCLUSION:

Therefore, ultrasonography done between 6-9 weeks led to early diagnosis of risk factors and complications and adequate care, management and prevention of serious consequences

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