

**To Study Role of Ultrasound in Early Pregnancy at Medical College, Hospital Bikaner**Surbhi Gupta¹, Deepika Meena², G. L. Meena³^{1,3}Department of Radiodiagnosis , SP Medical College & Associate Group of PBM Hospitals, Bikaner.²Rajasthan Dental College Jaipur**Correspondence Author: Dr. Deepika Meena**, Department of Dentistry, S.P. Medical College, Bikaner**Conflicts of Interest:** None to Declare**Abstract**

Background: The development of a baby is quite an intricate journey. From the moment that the egg and sperm meet, a baby is beginning the developmental process.

Methods: The present study was undertaken in the department of Radiology, S.P. Medical College, Bikaner. A total no. of 100 cases was studied. The cases of early pregnancy of various period of gestation up to two months with different parity were taken for study.

Results: Among the 100 subjects scanned during the early pregnancy with different presentations 50 were normal pregnant woman without any complaints. They were scanned either for confirmation of pregnancy or for assessment of gestational age. Among the rest, 30 were with the complaints of bleeding P/V. Out of the 10 cases of pain abdomen, 5 cases were found to be ectopic, 2 cases were molar pregnancy and 1 case was found to be incomplete abortion.

Conclusion: The abnormal pregnancy conditions like ectopic pregnancy, molar pregnancy, multiple pregnancy and pregnancy with ovarian cyst were also better detected by U/S even before the patient became symptomatic.

Keywords: Ectopic Pregnancy, Incomplete Abortion, Molar Pregnancy, Multiple Pregnancy, Ovarian Cyst.

Introduction

In the early stage of pregnancy, the evaluation of the embryo and gestational sac during the diagnostic ultrasonography is important. For example, gestational age can be determined by the measurement of gestational sac and crown rump length and the examination of yolk sac, heart activity and corionic villus can show the existing problems in early period. In the studies for determining the risk factors in symptomatic patients, maternal age and the presence of severe bleeding show the likelihood of abortus.^{1,2} In early period (Week 6-10), it was found that the 7.5% of the surviving fetus can experience abortus and the presence of fetal bradychardia and a gestational sac smaller than CRL are considered as the most important ultrasonographic markers of the loss of fetus.² In the results of another study, after the week 6- 14 during which living fetus is determined, the rate of fetal loss decreased to 3.4%, whereas it was concluded that the count of heart beat cannot be beneficial in predicting the fetal loss.³

Obstetric ultrasound is primarily used to:

- Date the pregnancy (gestational age).
- Confirm fetal viability by checking for the fetal movement and heartbeat.
- Determine location of the gestational sac (intrauterine vs. ectopic).

- Check the location of the placenta in relation to the cervix.
- Check for the number of fetuses (multiple pregnancy).
- Check for major physical abnormalities.
- Assess fetal growth (for evidence of intrauterine growth retardation (IUGR)).
- Ultrasound scanners using pulsed wave and color Doppler are used to visualize arteries and veins.

Materials and Methods

The present study was undertaken in the department of Radiology, S.P. Medical College, Bikaner. A total no. of 100 cases was studied. The cases of early pregnancy of various period of gestation up to two months with different parity were taken for study. The cases were selected at random from the patients attending the outpatient department for confirmation of pregnancy or admitted to the ward for therapeutic abortion or some early pregnancy complications.

A detailed clinical history of each case was taken with reference to Age, Parity and with special reference to previous and present obstetric and menstrual history. Leading questions were asked about irregular bleeding P/V, pain abdomen, excessive discharge, vomiting and history of any previous operations. The last menstrual date was asked in each case.

Thorough general, systemic and obstetric examination was done. Period of gestation was assessed by various clinical methods. They were also advised to do the various routine hematological investigations, urine and stool examination, FBS, serum VDRL, ABO grouping, Rh-typing and whenever required, urinary hCG examination.

Observation

Among the 100 subjects scanned during the early pregnancy with different presentations 50 were normal pregnant woman without any complaints. They were scanned either for confirmation of pregnancy or for

assessment of gestational age. Among the rest, 30 were with the complaints of bleeding P/V. Out of the 10 cases of pain abdomen, 5 cases were found to be ectopic, 2 cases were molar pregnancy and 1 case was found to be incomplete abortion. Later on rest 3 cases of pain abdomen did not reveal any abnormality either clinically or ultrasonically. 3 cases who presented with severe vomiting did not reveal any pathology and hence considered to be normal pregnancy vomiting.

Table No. 1 showing the distribution of these cases.

Presentation	No. of Cases
Normal pregnancy (asymptomatic)	50
Bleeding P/V	30
Severe vomiting	10
Pain abdomen	10
Total	100

Table No. 2 showing the age distribution of the cases

Age in years	No. of cases
<20	15
21-30	70
>30	15
Total	100

Table No. 3 showing the gravidity distribution of cases

Gravidity	No. of cases
Primi	30
Multi	70
Total	100

Table No.4 case distribution according their last menstrual period.

Case groups	No. of cases
Known gestational age	70
LMP not remembered	10

Conceived in lactational amenorrhoea	12
LMP not known	8
Total	100

Table No.5: Case distribution after Sonographic Evaluation.

Sonar finding	No. of cases
Normal pregnancy	60
Missed abortion	15
Incomplete abortion	12
Molar pregnancy	4
Ectopic pregnancy	5
Multiple pregnancy	2
Pregnancy with uterine anomaly	1
Pregnancy with ovarian cyst	1
Total	100

Discussion

Ian Donald, the pioneer of obstetric ultrasound, stated in his Gold Medal address, „We are particularly interested in studying the first 12 weeks of intrauterine development which are even more interesting than the last 12 weeks. This perception has been greatly augmented in this era by readily available methods using sophisticated instruments such as high resolution real time sonography. Sonography is also an excellent tool to prognosticate the safe continuation of pregnancy 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. The results of our study completely correlated with the available literature:

One in thirteen patients who complained of pain abdomen and bleeding P/V were diagnosed with ectopic pregnancy ⁴. Almost 15% of the patients will end up in spontaneous

abortion ⁵⁻⁹. One in twenty patients has pregnancy with associated ovarian cyst ¹⁰⁻¹².

The percentage for blighted ovum, molar and multiple pregnancies are three for each ¹³⁻¹⁵.

Conclusion

The abnormal pregnancy conditions like ectopic pregnancy, molar pregnancy, multiple pregnancy and pregnancy with ovarian cyst were also better detected by U/S even before the patient became symptomatic.

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