



ORIGINAL RESEARCH PAPER

Obstetrics & Gynaecology

TO STUDY THE EFFECT OF PLACENTAL LOCATION ON NEONATAL OUTCOME

KEY WORDS: Placenta, Ultrasonography.

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ABSTRACT

INTRODUCTION : Placenta is an important connecting organ between mother and fetus, a lot of fetus problems related with placenta. It is the vital link between the mother and the fetus for metabolic exchange, endocrine, and other body functions, is critical for maternal neonatal well-being. Therefore, ultrasonographic (USG) examination of placenta during pregnancy is a vital aid to pregnancy management.

AIM : TO STUDY THE EFFECT OF PLACENTAL LOCATION AND NEONATAL OUTCOME

MATERIAL AND METHOD : The study was conducted in all ante-natal cases between 18-24 weeks of gestation attending the ante-natal clinic Upper India Sugar Exchange Maternity Hospital, GSVM Medical College , Kanpur.

The present study was prospective observational study done in 592 pregnant female during the period of January 2014 to July 2015.

RESULT : This table showed that maximum number of neonate in our study had birth weight >2.5 kg , Apgar score at 1 and 5 min >7 . 16.2 % needs neonatal admission and 2% neonatal mortality.

CONCLUSION : In our study , 592 pregnant female were followed. First USG scan taken between 18-24 week and then they were advise for repeat scan in third trimester but very few patients do this. All these patients were followed upto delivery and maternal and neonatal outcome was observed.

The study showed that their was no association of placental location with birth weight.

INTRODUCTION :

Placenta is an important connecting organ between mother and fetus, a lot of fetus problems related with placenta. It is the vital link between the mother and the fetus for metabolic exchange, endocrine, and other body functions, is critical for maternal neonatal well-being. Therefore, ultrasonographic (USG) examination of placenta during pregnancy is a vital aid to pregnancy management.

USG of placenta is primarily directed toward determining the location of the placenta and identifying its abnormalities in the later weeks of pregnancy. However, the advent of high-resolution transvaginal ultrasound (TVS) has revolutionized the understanding of placental studies, and it is believed that placental evaluation in early pregnancy could be useful in identifying the risks for subsequent disorders. The site of implantation that decides the location of placenta is likely to be important determinant of placental blood flow and therefore pregnancy outcome.

Ultrasound imaging has become an integral component of routine prenatal medical care for most pregnant women. During an obstetrical ultrasound, evaluation of the fetus is chief priority but often, the other components (placenta, umbilical cord, and amniotic fluid) which represent an integral part of gestation, are arguably not given the attention they deserve (**OyelesY et al 2009**).

Both the American College of Obstetricians and Gynecologists and the American Institute of Ultrasound in Medicine recommended that the standard obstetric sonogram in the second and/or third trimester should include the evaluation of placental position and morphology, the estimation of amniotic fluid volume, and the evaluation of both the morphology and function of the umbilical cord(**ACOG 2009 , AIUM 2013**).

Duran Erdolu et al examine the relationship between placental localisation, birth weight, and fetal sex. It also evaluates umbilical artery Doppler parameters and their relationship with placental localisation. Birth weight was

significantly higher in foetuses with anteriorly located placenta. The incidence of female foetuses was higher (62%) in relation to anteriorly located placentas, whereas male incidence was higher (51.9%) in relation to posterior placentas. A comparison of Doppler parameters between groups revealed significantly higher pulsatility index (PI) and resistance index (RI) values in posteriorly located placentas.

Belogolovkin et al.(2007) examined the effect of placental localisation on birth weight in twin pregnancies.

In the light of these observations, we designed a prospective observational study to find out whether the location of placenta as seen by ultrasound at 18-24 weeks of gestation can be used for prediction of adverse pregnancy outcome.

AIMS AND OBJECTIVES

1. To evaluate different placental location in 2nd trimester of pregnancy between 18 to 24th week of gestation
2. To study association of placental location and neonatal outcome

MATERIAL AND METHODS

The study was conducted in all ante-natal cases between 18-24 weeks of gestation attending the ante-natal clinic Upper India Sugar Exchange Maternity Hospital, GSVM Medical College , Kanpur.

The present study was prospective observational study. The study was conducted on 592 pregnant women in 2nd trimester over a period of 16 months during the period of January 2014 to July 2015.

Inclusion Criteria

All pregnant women with singleton pregnancy between 18 to 24th week of gestation attending the ante-natal clinic Upper India Sugar Exchange Maternity Hospital, GSVM Medical College , Kanpur.

Excision Criteria

Multiple pregnancy, Antipartum haemorrhage and other chronic medical disorder etc.

TABLE :

Table -1 total Number Of Pregnant Women In Our Study

Pregnant women	Number
At first visit	820
Lost in follow up	80
2 nd trimester abortion	16
Pregnant women included in our study	592

This table showed that at first visit during 2nd trimester at 18 - 24 week 820 pregnant female included in our study, out of which 80 lost in follow up ,16 had 2nd trimester abortion so our study were done in 592 patients.

Table-2 Characteristic Of Study Population

Characteristic	Number	%
Primigravida	241	40.70
Previous history of preeclampsia,abruption	10	1.6
Previous history of IUGR	9	1.5
Previous history of preterm	12	2.02
Diabetes	11	1.8

This table showed that 241(40.70 %) pregnant women were primigravida, in 10(1.6 %) pregnant female there was previous history of preeclampsia and abruption,9 (1.5 %)were having previous history of IUGR ,12 (2.02 %) had history of preterm labour and 11 (1.8 %)with history of diabetes.

Table-3 Mode Of Delivery In All Women

Placental position (n=592)	LSCS (n=225)	ND (n=367)
Central located(368)	97(16.41)	340(57.45)
Lateral located(224)	61(10.36)	94(15.76)

This table showed that no association of placentation with mode of delivery.

Table 4 Relationship Between Placental Position And BirthWeight

Placental position (n=592)	Birth weight <2.5kg	Birth weight >2.5 kg
Central located(368)	202(54.97)	166(45.02)
Lateral located(224)	(125)56.19	119(53.83)

This table showed that no association of placental location with birth weight.

Table-5 Neonatal Outcome In Our Study

Outcome in neonate	Number(n=592)	%
Birth weight	<2.5 kg	200
	>2.5 kg	386
Apgar score	In 1 min <7	56
	>7	530
	5 min <7	53
	>7	536
Neonatal admission	96	16.2
Neonatal mortality	96	2

This table showed that maximum number of neonate in our study had birth weight >2.5 kg ,Apgar score at 1 and 5 min >7. 16.2 % needs neonatal admission and 2% neonatal mortality.

DISCUSSION :

Table-1 In our study showed that , at first visit during 2nd trimester at 18 -24 week 820 pregnant female included in our study, out of which 80 lost in follow up ,16 had 2nd trimester abortion so our study were done in 592 patients.

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Table 5 showed that maximum number of neonate in our study had birth weight >2.5 kg ,Apgar score at 1 and 5 min >7. 16.2 % needs neonatal admission and 2% neonatal mortality.

CONCLUSION

The objective of our study was to study, the second trimester placental location and neonatal outcome.

Hence our study was an effort to establish the association of placental location with different maternal and neonatal outcome so that it can help us to determine various maternal complication in form of preeclampsia ,preterm labour, placental abruption,IUGR,gestational diabetes mellitus etc and neonatal outcome in the form of low Apgar score,small for gestational age,stillbirth etc.

In our study, 592 pregnant female were followed. First USG scan taken between 18-24 week and then they were advise for repeat scan in third trimester but very few patients do this. All these patients were followed upto delivery and maternal and neonatal outcome was observed.

The study showed that there was no association of placental location with birth weight.

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