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FETOMATERNAL OUTCOME OF PLACENTA PREVIA AT OR AFTER 28 WEEKS

Obstetrics & Gynaecology

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ABSTRACT

Introduction Proper placental location is important for fetal growth and development as change in placental location or architecture, maternal and fetal outcome is altered (1). all placenta overlying the os (to any degree) is termed placenta previa and those near to os and not overlying are termed low lying placenta (2). The classic presentation of previa is painless vaginal bleed in third trimester but now, most placenta previa are diagnosed antenatally by ultrasound, which is considered diagnostic. **Material & Method** It is a prospective observational study conducted over 2 years, conducted in 100 attending OPD or IPD at MGM Women and Child Hospital and diagnosed with placenta previa at or after 28 weeks of gestation. Patients were selected using inclusion and exclusion criteria. Maternal and fetal outcome were monitored. **Result** Women with placenta previa is associated with numerous adverse maternal complications like antepartum hemorrhage, anemia, post partum hemorrhage and need for blood transfusion. Placenta previa is also associated with adverse neonatal complications preterm delivery, low APGAR at 5min, NICU admission, low birth weight, neonatal morbidity and mortality. **Conclusion** We thus concluded that, pregnancy with placenta previa have deranged pregnancy and perinatal outcome. Hence, pregnant women with placenta previa require vigilant monitoring for adverse outcomes and regular antenatal care preferably at a tertiary care centre would be beneficial.

KEYWORDS

fetal complications; maternal complications; placenta previa; Antepartum haemorrhage

INTRODUCTION

Placenta forms a link between mother and fetus. Proper placental location is important for fetal growth and development as change in placental location or architecture, maternal and fetal outcome is altered (1). Placenta previa is defined as the placenta overlying the endocervical os. The use of transvaginal ultrasound allows for precise location of placental edge and cervical os, according to modified nomenclature, all placenta overlying the os (to any degree) is termed placenta previa and those near to os and not overlying are termed low lying placenta (2).

The incidence of placenta previa is about 4-5 per 1000 pregnancy (10). The incidence appears to have a direct correlation with increased need for cesarean delivery. Although the pathophysiology of placenta previa remains uncertain, there appears to be an association between endometrial damage and uterine scarring and placenta previa. Other risk factors include multiparity, maternal age, smoking, cocaine use and prior previa. The classic presentation of previa is painless vaginal bleed in third trimester but now, most placenta previa are diagnosed antenatally by ultrasound, which is considered diagnostic. Transvaginal sonography (TVS) is the gold standard for diagnosis of placenta previa the where Transabdominal ultrasound should be used only as a screening tool.(3)

Many placenta previa noted in midpregnancy during routine ultrasound will no longer be present by time of delivery. Approximately 10-20% placenta previa at 20 weeks will remain previa in late third trimester (4). Placenta previa is associated with numerous adverse maternal and neonatal complications like antepartum hemorrhage, anemia, need for blood transfusion, hysterectomy, ICU admission, septicemia, preterm delivery and complications associated with preterm.

MATERIAL AND METHODS

It is a prospective observational study conducted over 2 years, conducted in 100 attending OPD or IPD at MGM Women and Child Hospital and diagnosed with placenta previa at or after 28 weeks of gestation. The patients were divided into two groups –Group A (50) – patients having placenta previa and Group B(50) - patients having normally implanted placenta. Patients were selected using inclusion and exclusion criteria. The inclusion criteria for study group - A was singleton pregnancy with placenta previa detected at or after 28 weeks without co-morbidities. The inclusion criterion for study group - B was singleton pregnancy with normally situated placenta without co morbidities. Exclusion criteria was co morbidities (like gestational hypertension, pre eclampsia, gestational diabetes and heart disease), multifetal gestation and patient not consenting for participation in study.

Written and informed consent was taken from all patients and all cases were monitored for feto maternal outcomes in both study groups. The following maternal outcomes were monitored – mode of delivery, amount of blood loss in antenatal and during cesarean or vaginal delivery, weeks of gestation at which pregnancy was terminated, falls in hemoglobin. The following fetal outcomes were monitored- APGAR score, NICU admission, Birth weight and other complications. All data was collected in MS Excel sheet and analyzed.

RESULTS

Majority of the cases and control belong to the 25 to 30 year age group (66% and 54% respectively). In 58% of study group gestational age of diagnosis was 34-36weeks whereas in control groups 82% have gestational age of diagnosis more than 36weeks. Overall most of the mothers in case and control were multiparous (94%and 86% respectively). Amongst the study group 92% underwent cesarean section and only 8% vaginal delivery whereas in control group 70% had vaginal delivery and 30% had cesarean section. Malpresentations were observed in 34% of study group and just 14 % of control group. A statistically signification difference was observed in incidence of PPH in study group. In the present study, 40 % cases and 26% control presented with anemia. Higher number of women presented with anemia in study group than control group (40% and 26% respectively) whereas a large proportion study group required blood transfusion 92% and 30% in control group(table1).

Table1 : antenatal and postnatal complication of placenta previa

OUTCOMES MEASURED	CASES	CONTROL
Malpresentations	34%	14%
Anemia	40%	26%
Cesarean section	92%	30%
Post partum hemorrhage	40%	26%
Need for blood transfusion	92%	30%

About 32% cases and 4 % control had preterm birth and the difference was statistically significant with a p value of 0.001.. Amongst the study group a birth weight of new born of less than 2000g, 2000-3000gand above 3000g were 32%, 52% and 16% respectively but in control group was 4%, 72% and 24% respectively. This study found that out of 50 cases of placenta previa, 15 cases (30%) had APGAR score of less

than 7 at 5min whereas in control group in 16% had low APGAR. There was a significantly higher rate of NICU admission amongst study group than in control group (30% and 10% respectively) though the fetal mortality rate amongst study group and control group were 8% and 2% respectively (table2).

Table2: Perinatal complication of placenta previa

OUTCOME MEASURED	CASES	CONTROL
Preterm	32%	4%
Birth weight less than 2000g	32%	4%
Low APGAR	30%	16%
NICU admission	30%	10%
Fetal mortality	8%	2%

DISCUSSION

The incidence of placenta previa is about 4-5 per 1000 pregnancy (10).Due to adverse maternal and perinatal outcome placenta previa is one of the dreaded complications in obstetrics (8).

Increasing age and number of pregnancies have been shown to be an important risk factor for placenta previa. In the present study, 66% of pregnant women from study group belong to age group of 26-30 years. Similar finding were reported in other studies like Khirasaria DM et al (5)and Singhal et al(6) where mean maternal age was 27 and 26.2 years respectively . Overall most of the mothers in case and control were multiparous (94%and 86% respectively)

A new classification could describe the distance of placenta from internal os on TVS that is performed within 28 days of term in the following way: (A) >20 mm away from the internal os; cesarean section delivery for previa not indicated; (B) 11-20 mm; lower likelihood of bleeding and need for cesarean section delivery; (C) 0-10 mm; higher likelihood of bleeding and need for cesarean section delivery; and (D) overlap of the internal os by any distance: cesarean section delivery indicated(3).Majority of women with placenta previa require cesarean section. In present study, 46 out of 50 women with placenta previa underwent cesarean section where as only 30% required cesarean section in control group and the difference between the groups were statistically significant.

Women with placenta previa have higher risk of obstetric complication in form of Malpresentations, anemia and post partum hemorrhage. Our finding is consistent with previous investigators (table3).

Table3: Obstetrical complications reported by different authors and its comparison to the present study

	Present study	Singhal S et al(6)	Khirasaria DM et al(5)
Malpresentation	34%	13%	30%
Anemia	40%	83%	-
Need for blood transfusion	92%	98%	86%
PPH	40%	46%	33.3%

The increased risk of postpartum hemorrhage in women with placenta previa may be explained by the implantation of placenta in a previous scarred uterus which may get deeply attached and preventing spontaneous placental separation. This may provoke severe hemorrhage during forceable seperation. (10)

Table4: Comparison of fetal complications

OUTCOME MEASURED	Present study	Singhal S et al(6)	Ojha Net al(8)	Ayushma J et al(12)
Preterm	32%	38%	45.7%	50.9%
Low birth weight	32%	68%	27%	66.7%
Low APGAR	30%	-	10%	-
NICU admission	30%	50%	-	22.8%
Fetal mortality	8%	11.8%	10%	21%

In present study neonatal outcomes like preterm delivery, low APGAR at 5min, NICU admission, low birth weight and fetal mortality was more common among cases with placenta previa as compare to those without it (table4).

CONCLUSION

The incidence of placenta previa is about 4-5 per 1000 pregnancy .The incidence appears to have increased in relation to increased rate of cesarean deliveries. Most placenta previa are diagnosed antenatally by ultrasound, which is considered as gold standard diagnosis. Women with placenta previa is associated with numerous adverse maternal complications like antepartum hemorrhage, anemia, post partum hemorrhage and need for blood transfusion. Placenta previa is also associated with adverse neonatal complications preterm delivery, low APGAR at 5min, NICU admission, septicemia , low birth weight, neonatal morbidity and mortality.

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