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KEY WORDS: Placenta previa, Prior cesarean delivery, Adherent placenta, postpartum haemorrhage, maternal morbidity

CLINICAL STUDY OF PLACENTA PREVIA AND ITS EFFECT ON MATERNAL HEALTH AND FETAL OUTCOME

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ABSTRACT

Objectives: When placenta is implanted partially or completely in lower uterine segment it is called placenta previa. Objective of the study was to determine the incidence, risk factors, management, maternal mortality and morbidity, perinatal outcome in women presenting with placenta previa.

Methodology: Total 54 pregnant women with placenta previa were analyzed between June 2018 to May 2019. After applying the inclusion and exclusion criteria these women were analyzed with respect to age, parity, gestational age and clinical features at presentation, history of warning bleeding, duration of hospitalization, need for blood transfusion, period of gestation at delivery, route of delivery and ICU admissions. For the newborn APGAR score,preterm deliveries,neonatal mortality rate were noted down.

Results: In this study 0.67% of deliveries were complicated with placenta previa among which 29.63% women were above 30 years of age and 77.7% were multigravidas. 55.6% had major degree placenta previa, 22.2% had prior cesarean deliveries, and 11.1% had prior abortion, 51.85% preterm deliveries. 70.37% cases delivered by cesarean delivery, 9.25% cases had postpartum haemorrhage and 3.7% had adherent placenta. There were 7.4% ICU admissions, 1.9% cases of acute kidney injury in present series.

Conclusion: Advancing maternal age, multiparity, prior cesarean section, and prior abortions are independent risk factors for placenta previa. Placenta previa remains a risk factor for adverse maternal and perinatal outcome. Detection of placenta previa timely is necessary to reduce maternal and perinatal complications.

INTRODUCTION

When the placenta is implanted partially or completely in the lower uterine segment it is called placenta previa. About one third of the ante partum haemorrhage belongs to placenta previa. The most characteristic event in placenta previa is painless haemorrhage, which usually does not appear until near the end of the second trimester or after. The classical features of bleeding in placenta previa are sudden onset, painless, apparently causeless and recurrent. It is associated with increased maternal morbidity and mortality due to increased incidence of hemorrhagic shock, increased operative interventions and sepsis. There is higher incidence of perinatal mortality and morbidity due to preterm delivery and its related complications like low birth weight, birth asphyxia and neonatal sepsis.

The incidence of placenta previa is around 1 in 300 deliveries. Advancing maternal age increases the risk of placenta previa. At the extremes it is 1 in 1500 for women 19 years of age or younger and it is 1 in 100 for women older than 35 years of age. Multiparity is associated with previa. Prior cesarean delivery increases the likelihood of placenta previa. Incidence increases from 1.9% with 2 prior cesareans to 4.1% with 3 or more. The simplest, most precise and safest method of placental localization is provided by transabdominal sonography. There is increased incidence of ante partum hemorrhage leading to maternal shock and its consequences, increased incidence of operative interventions, increased incidence of postpartum hemorrhage all posing increased risk of maternal morbidity and mortality.

Preterm delivery is the major cause of perinatal death even with expectant management of placenta previa. Although some investigators suggested that congenital malformations are increased with previa, crane and coworkers were the first to confirm this. For reasons that are unclear, in cases of placenta previa fetal anomalies were increased 2.5 fold. Management of placenta previa depends on presentation, gestational age and degree of previa. When mothers life is not at risk, expectant management will improve the outcome.

METHODS

A retrospective study conducted at Government General hospital, Kadapa between June 2018 to may 2019 for 12 months. Objective of this study is to determine the incidence, demographic features, obstetric risk factors, obstetric management, maternal mortality and morbidity, perinatal outcome in women presenting with placenta previa.

INCLUSION CRITERIA

1. All pregnant women irrespective of age and parity diagnosed of placenta previa
2. Singleton pregnancy

EXCLUSION CRITERIA

1. Bleeding P/V due to other causes other than placenta previa
2. Multifetal gestation

All 54 women whose gestational age is beyond 28 weeks and who are diagnosed with placenta previa at or after admission and during cesarean delivery are included in the study. Details of their age, parity, gestational age & clinical features at presentation, detailed history of current pregnancy and previous pregnancies, period of gestation at which placenta previa was diagnosed, history of warning bleeding etc are documented. Women are subjected to a detailed clinical examination. Duration of hospitalization, need for blood transfusion, period of gestation at delivery, route of delivery (vaginal or cesarean), need for extra surgical maneuvers during operative delivery to prevent or to stop bleeding like cervico-isthmic stich, uterine artery ligation, stepwise devascularisation and hysterectomy and need for ICU admissions are noted down. An analysis of maternal mortality and morbidity was done with respect to development of hypovolemic shock, DIC, anemia, acute kidney injury, septicemia and maternal deaths.

For the newborn gestational age at delivery, APGAR score, birth weight, need for NICU admission, still birth rate, neonatal mortality rate, presence of congenital anomalies are noted down. Both mother and baby are followed up throughout the period of their hospitalization till discharge.

RESULTS

The following data was obtained from the present study. During the study period, there were 8048 deliveries, of which, 0.67% were complicated with placenta previa. The age distribution of present study group is shown in Table 1.

Table 1: Age distribution.

Age	Number	Percentage
<20 years	2	3.70
20-24 years	16	29.62
25-29 years	20	37.03
30 years and above	16	29.62

In the present series there are 12 (22.2%) primis, 20 (37.03%) second gravidas, 12 (22.2%) third gravidas, 8 (14.81%) fourth gravidas and 2 (3.7%) fifth gravidas.Multiparity is certainly a risk factor for placenta previa.

Type of placenta previa depending upon placental localization by ultrasound or previa noted during cesarean delivery for some other indication is shown in Table 2.

Table 2: Location of placenta

Type of placenta	Number	Percentage
Type 1	14	25.92
Type 2	16	29.62
Type 3	12	22.22
Type 4	12	22.22

In the present series there were 8 (14.81%) cases with one prior cesarean delivery, 4 (7.40%) cases with 2 prior cesarean deliveries, 6 (11.11%) had prior abortion,38 (70.37%) cases delivered by caesarean delivery and 16 (29.62%) cases were delivered by vaginal route. 12 (22.22%) cases delivered prior to 32 weeks, 16 (29.62%) cases delivered between 32-37 weeks and 26 (48.14%) cases delivered after 37 completed weeks.

Table 3: Additional surgical procedures/maneuvers carried out to control bleeding.

Type of procedure	Number	Percentage
B-lynch stitch	04	7.4
Uterine artery ligation	02	3.7
Emergency peripartum hysterectomy	02	3.7

In this study 2 peripartum hysterectomies were observed. One of the patients was G2P1L1 with 34 weeks gestation with complete placenta previa. Due to uterine action she was sectioned and as there was continuous oozing from placental site, she was hysterectomised. The other case was G2A1 with term gestation with severe preeclampsia with low lying placenta. She delivered vaginally and due to atonic PPH which could not be controlled by medical management, she was taken up for hysterectomy.

In this study, 5 (9.25%) cases had postpartum haemorrhage and 2 (3.7%) had adherent placenta and 46 (85.18%)cases received blood transfusions. There were 4 (7.4%) ICU admissions, 1 (1.85%) cases of acute kidney injury Neonatal outcome has been shown in Table 4.

Table 4: Neonatal outcome.

Factors	Number	Percentage
Gestational age (maturity)		
28-32 weeks	12	22.2
33-36 weeks	16	29.62
>37 weeks	26	48.14
Birth weight		
<1.5 kg	6	11.1
1.5-2.4 kg	12	22.2
2.5 -3.4 kg	36	66.7
APGAR score (<7)	7	12.9
NICU admissions	16	29.6
Preterm birth	28	51.85
Still birth	10	18.5

DISCUSSIONS

Placenta previa is one of the dreaded complications in obstetrics due to its associated adverse maternal and perinatal outcome. Increasing age and number of pregnancies have been shown to be an important risk factor for placenta previa. In this study nearly 30% of women were above 30 years of age and more than three fourth of women were multiparas.

Regarding previous obstetric history 22.2% had prior cesarean delivery and 11.1% had prior history of abortion. Thus prior cesarian section and previous history of abortions (both spontaneous and induced) have been significantly associated with up to three times risk of placenta previa.

In present study 70.37% cases underwent cesarean delivery. There were 05 cases of postpartum hemorrhage cases in this study, out of which 02 underwent peripartum hysyerectomy.

Regarding maternal complications there is increased rate of postpartum hemorrhage, multiple unit blood and blood product transfusions, ICU admissions, acute kidney injury which are attributable to placenta previa.

Neonatal morbidity in our study was also significant. More than 50% were delivered before 37 weeks and 29.6% of newborns were admitted to the neonatal intensive care unit.

There was a progressive decrease in neonatal morbidity in the form of improving Apgar scores and fewer admissions to the neonatal intensive care unit as gestation advanced were observed in the study. Therefore, waiting until 37 weeks of gestation could decrease neonatal morbidity in our population. However, the obstetrician must weigh the risks of neonatal prematurity against the benefits of a planned delivery.

CONCLUSIONS

Advancing maternal age, multiparity, prior cesarean section, and prior abortions are independent risk factors for placenta previa. An increase in the incidence of these risk factors probably contributes to a rise in the number of pregnancies complicated with placenta previa. Placenta previa remains a risk factor for various maternal complications adversely affecting maternal and perinatal outcome. The detection of placenta previa should encourage a careful evaluation with timely delivery and careful interventions with medical management and surgical maneuvers like uterine artery ligation can prevent PPH and are useful in order to reduce the associated maternal and perinatal complications.

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