

Clinico-Demographic Demographic and Perinatal Outcome Assessment in Women Presenting with Placenta Previa

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Abstract

Aim: The objective of the study was to study the demographic features, obstetric risk factors and management, and perinatal outcome in women presenting with placenta previa.

Methods: The present study was conducted in the Department of obstetrics and gynaecology, Shahid Nirmal Mahato Medical College & Hospital, Dhanbad, Jharkhand and 60 cases of placenta previa were included who were admitted during the period from 01.08.2020 to 31.07.2021.

Results: The maximum number of patients in the study group are seen in the age group of 25-29 years. Multiparous women are at higher risk of having placenta previa than primi. Diagnosis of type of placenta previa by ultrasonography showed the result that out of 60 cases 28 cases (46.66%) having placenta that partially cover internal os. 52% cases diagnosed during antenatal visits and 48% cases came with complain of bleeding per vagina and admitted in hospital. Most common etiological factor associated with placenta previa is previous caesarean section and in the study 66.66% cases are associated with that.

Conclusion: Placenta previa is one of the most serious obstetrics emergencies, risk factor for placenta previa are multiparity, previous caesarean section, and previous abortion leading to serious maternal complication which adversely affect fetomaternal outcome. In the present study 36 patients accounted 60% of total cases were required blood transfusion whereas, other cases were not required any blood components.

Keywords: Maternal mortality, Placenta previa, Postpartum hemorrhage, Previous caesarean delivery

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Introduction

Placenta previa complicates 0.3-1.5% of the pregnancies and it may lead to significant maternal morbidity and even death. It is also associated with poor neonatal outcome includes preterm delivery, low birth weight and perinatal

death. [1] Placenta previa invading the uterine wall becomes morbidly adherent placenta (MAP) in form of placenta accrete, increta and percreta. MAP can result in life threatening hemorrhage, disseminated intravascular coagulation and death. [2,3]

The rising trend of caesarean section has led to dramatic increase in incidence of placenta Previa and MAP in last few decades. [4,5] Ultrasound has good diagnostic accuracy in diagnosis of placenta previa but in some patients, MAP is diagnosed intraoperatively and hence has catastrophic outcomes. [6]

Prevalence of placenta previa is 4 per 1000 deliveries. There is a high risk of postpartum haemorrhage in cases of placenta previa. There is increased maternal and perinatal mortality and morbidity due to placenta previa. [7,8] Exact cause of placenta previa is not known but there are multiple risk factors for placenta previa. Age, parity, hyperplacentalosis, previous uterine scar, multiple pregnancy, malpresentations, uterine anomalies, placental and cord abnormalities and assisted reproductive techniques are some of the common risk factors for placenta previa. [9] Mothers with placenta praevia have a ten fold risk of reoccurrence in a subsequent pregnancy. Most common presentation of placenta previa is recurrent, profuse, painless, pervaginal bleeding before the onset of labour. Placenta previa is a major cause of maternal morbidity and mortality because of the associated massive antepartum and intra-partum hemorrhage. [10]

There are four types of placentae previa depending upon the degree of extension of placenta in lower segment. i.e., Type 1 - low lying, Type 2 - marginal, Type 3 - incomplete or partial central and Type 4 - complete or central. Clinically they are divided in to 2 grade that are mention below: Mild degree: Type 1 and Type 2 anterior. Posterior placenta previa is slightly more common and more dangerous, because it discourages engagement of the head more often and the placenta is likely to be compressed in labour impairing placental perfusion. Several factors that are associated with placenta previa are

advancing maternal age, multiparity, previous abortions, previous history of placenta previa with rising incidence of prior caesarean delivery increase the likelihood of placenta previa by 22%. [11] It can be associated with placenta increta, accreta or percreta. The simple, most precise and safe method of placental localization is transabdominal sonography. [12] Usually, patients of placenta previa presents with painless, causeless bleeding in late second trimester and thereafter. In some patients, bleeding is excessive and lead to maternal shock and becomes a serious condition to manage. So, there is increased incidence of operative interventions and also postpartum hemorrhage. This leading to increased risk of maternal morbidity and mortality. [13] Preterm delivery is the major cause of perinatal death even with expectant management of placenta previa. [14]

The objective of the study was to study the demographic features, obstetric risk factors and management, and perinatal outcome in women presenting with placenta previa.

Methods

The present study was conducted in the Department of obstetrics and gynaecology, Shahid Nirmal Mahato Medical College & Hospital, Dhanbad. (Jharkhand) and 60 cases of placenta previa were included who were admitted during the period from 01.08.2020 to 31.07.2021

Inclusion criteria

- This study included all patients that diagnosed as placenta previa by ultrasonography irrespective of age, parity, socioeconomic status, demographic status with gestational age more than or equal to 28 weeks
- Emergency cases and registered cases both are included
- Some patients came with the complaint of vaginal bleeding at full term.

• While some are diagnosed in antenatal period during routine sonography examination. **Exclusion criteria**

• The cases which having gestational age below 28 weeks and other causes of antepartum hemorrhage are excluded.

Methodology

Detailed study was carried out including patient age, parity, gestational age and clinical features, detailed history of current pregnancy and previous pregnancies, period of gestation at which placenta previa was diagnosed, history of warning bleeding etc are documented. Duration of hospitalization, need for blood transfusion,

period of gestation at delivery, mode of delivery (vaginal or caesarean), methods to prevent or to stop bleeding like cervico-isthmic stich, uterine artery ligation, hysterectomy and need for ICU admissions are noted. Study of maternal mortality and morbidity was done with respect to development of hypovolemic shock, DIC, anemia, acute kidney injury, septicaemia and maternal deaths. Data were also collected regarding delivery (presentation of fetus, mode of delivery and gestational age at delivery), neonatal (birth weight, NICU admission).

Results

Table 1: Age distribution among the cases of placenta previa and Parity & risk of having placenta previa

Age	n	%
< 20 years	8	13.34%
20-24 years	18	30%
25-29 years	24	40%
>30 years	10	16.66%
Parity		
0-1	16	26.66%
2-4	34	56.66%
>5	10	16.67%

The maximum number of patients in the study group is seen in the age group of 25-29 years. Multiparous women are at higher risk of having placenta previa than primi.

Table 2: Types of placenta previa on ultrasonography and Etiological factors associated with placenta previa.

Types of placenta previa	n	%
Type 1 low lying	15	25%
Type 2 marginal	10	16.66%
Type 3 partial	28	46.66%
Type 4 central	7	11.67%
Risk factors		
Previous CS	12	20%
Previous 2CS	28	46.66%
Previous D and E	11	18.34%
Previous history of previa	9	15%

Diagnosis of type of placenta previa by ultrasonography showed the result that out of 60 cases 28 cases (46.66%) having placenta that partially cover internal os. 52% cases diagnosed during antenatal

visits and 48% cases came with complain of bleeding per vagina and admitted in hospital. They were first given conservative management and if bleeding was persistent than termination of

pregnancy was planned. Most common etiological factor associated with placenta previa is previous caesarean section and in

the study 66.66% cases are associated with that.

Table 3: Maternal complication seen during management of placenta previa

Complication	n	%
Postpartum hemorrhage	18	30%
Hypovolemic shock	10	16.66%
Renal failure	2	3.34%
Disseminated intravascular coagulation (DIC)	3	5%
Septicaemia	3	5%

In the present study 36 patients accounted 60% of total cases were required blood transfusion whereas, other cases were not required any blood components.

Table 4: Neonatal outcome

Factors	N	%
Gestational age (maturity) 28-32 weeks	10	16.66%
33-36 weeks	30	50%
>37 weeks	20	33.34%
Birth weight <1.5 kg	7	11.66%
1.5-2.4 kg	22	36.66%
2.5-3.4 kg	24	40%
>3.5 kg	5	8.34%
NICU admission	34	56.66%
Preterm birth	18	30%
Still birth	1	1.66%

In the present study, no maternal mortality found. Authors have analyzed the neonatal outcome and factors responsible for poor neonatal outcome.

Discussion

Placenta Previa (PP) is defined as placenta that lies wholly or partly within the lower uterine segment. [15] It is associated with significant maternal and fetal morbidity and mortality because of unanticipated blood loss and is of the most acute life-threatening emergency in obstetrics. Frequency varies with parity; for nulliparous incidence is 0.2% whereas in grand multiparous it may be as high as 5%. [16] Risk factors are old age, multiparity, previous caesarean delivery, abortion, smoking, cocaine, and male fetus. [17] In previa patients, postpartum haemorrhage is substantial, which increases maternal complications. Risk factors for massive

haemorrhage and transfusion are old age, abortion, previous caesarean section, uterine myoma, increased BMI, increased neonatal weight, and complete previa. [18]

In our study Placenta previa was common in the age group of 25 to 29 years. Similar results were obtained in study by Sarojini et al. which showed 67% patients in this age group. [19] In this study 60% cases associated with previous caesarean section and 18% cases having history of prior D and E that become major etiological factor of placenta previa. The major cause of mortality and morbidity in placenta previa are hemorrhage both antepartum and postpartum.

As maximum number of patients had Type 2,3,4 of placenta previa, blood loss was more and 44 % patients required 1PCV,41%required 2 PCV to be transfused and similar results shown in

studies by Manohar et al. [20,21] When the bleeding was not controlled, at first bilateral uterine artery ligation was done. When in spite of that bleeding was not controlled then B lynch sutures were taken. When all the conservative measures failed, hysterectomy was performed.

It was observed in the study that 66.66% of patients with placenta previa delivered before 38 weeks of pregnancy showing high incidence of prematurity which correlate that higher incidence of emergency cases came to the hospital with bleeding per vagina and required termination. 56.66% of newborn admitted to the neonatal intensive care unit (NICU). Morbidity was more marked in 16.66% of cases whose gestation age were below 32 weeks. Major cause of low birth weight in placenta previa was because of preterm delivery and lesser extend to fetal growth restriction. According to RCOG guidelines elective delivery by caesarean section in asymptomatic women is not recommended before 38 weeks of gestation for placenta previa. [22]

There was no maternal mortality during the study period. However 3 patients with central placenta previa had intractable atonic PPH not controlled by medical and conservative surgeries requiring obstetric hysterectomy. NO maternal mortality is due to early and accurate diagnosis of placenta previa by Ultrasound and Doppler and increased availability of medical care by senior obstetrician, blood transfusion and ICU facilities. [23]

Conclusion

Placenta previa is one of the most serious obstetrics emergencies, risk factor for placenta previa are multiparity, previous caesarean section, and previous abortion leading to serious maternal complication which adversely affect fetomaternal outcome. Early diagnosis of placenta previa by transabdominal sonography, regular antenatal check-ups, correction of anemia, educating the patient about her

risk of developing complications at the time of delivery can prevent patient from mortality.

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