



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

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### ABSTRACT

**Background:** When the placenta is implanted partially or completely in the lower uterine segment it is called placenta previa, about one third of the antepartum haemorrhage belongs to placenta previa. The objective of the study was to determine the incidence, obstetric risk factors, Obstetric management, maternal mortality and morbidity, perinatal outcome in women presenting with placenta previa.

**Methods:** A prospective observation study conducted at Maharani Laxmi Bai Medical College and Hospital, Jhansi between April 2017 to January 2018. All 106 women who's 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.

**Results:** In this study 0.64% of the deliveries were complicated with placenta previa among them 23.6% women were above 30 years of age and 80.2% were multigravidas. 60.4% had major degree placenta previa, 36.8% had prior cesarean deliveries, 7.5% had prior abortion, 39.7% preterm deliveries. 85.8% cases delivered by cesarean delivery, 12.7% cases had postpartum haemorrhage and 4.7% had adherent placenta. There were 86.8% ICU admission, 3.8% 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 various maternal complications adversely affecting maternal and perinatal outcome. The detection of placenta previa should encourage a careful evaluation with timely delivery in order to reduce the associated maternal and perinatal complications.

**KEYWORDS :** Placenta Previa, Prior Cesarean Delivery, Adherent Placenta.

### 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 when in placenta previa is painless haemorrhage, which usually does not appear until near the end of the second trimester or after.

1.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.

2.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.

3.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.

4.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 interventions, incidence of operative 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.

### AIMS AND OBJECTIVES

The objective of the study was to determine the

incidence, obstetric risk factors, obstetric management, maternal mortality and morbidity, perinatal outcome in women presenting with placenta previa.

### METHODS

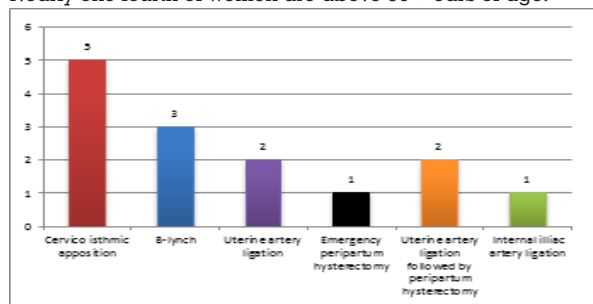
A prospective observational study conducted at Maharani Laxmi Bai Medical College and hospital between April 2017 to January 2018. Objective of this study is to determine the incidence, demographic features, obstetric risk factors, obstetric management, maternal mortality and morbidity, perinatal outcome in women presenting with placenta previa. All 106 women who's 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 stitch, uterine artery ligation, 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.

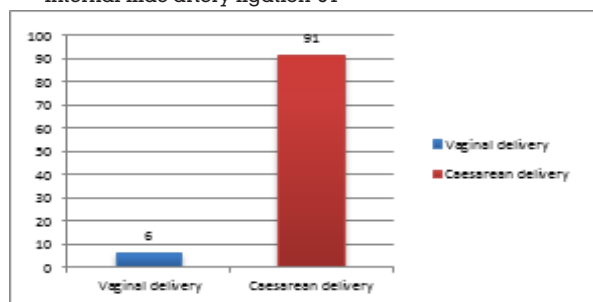
### RESULT

The following data was obtained from the present study. During the study period, there were 106 deliveries, of which, 0.64% were complicated with placenta previa. The age

distribution of present study group is shown in Table 1. Nearly one fourth of women are above 30 >ears of age.



- Cervicon-sthmic apposition – 05
- B-lynch-03
- Uterine artery ligation-02
- Emergency peripartum hysterectomy-01
- Uterine artery+peripartum hysterectomy-02
- Internal iliac artery ligation-01



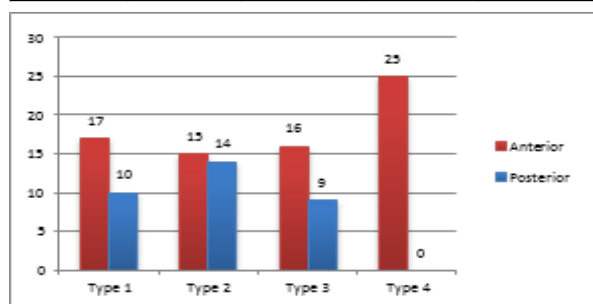
- Total cases- 106
- Vaginal delivery- 5
- Case 1- Anterior placenta completely covering OS with 6cm.
- Case 2- Anterior placenta reaching upto OS with 6cm.
- Case 3- Anterior placenta with previous LSCS with 2<sup>nd</sup> stage labour.
- Case 4- Posterior placenta partially covering OS 4cm.
- Anterior placenta covering OS with IUD-5cm.
- Caesarean delivery-91

Table 1: Age Distribution

Age	Number	Percentage
<20years	10	9.4%
20-24years	32	30.2%
25-29years	39	36.8%
>30years	25	23.6%

Table 2: Location Of Placenta (By USG And Itraoperative Findings)

Type of placenta	Anterior		Posterior	
	Number	Percentage	Number	Percentage
Type1	17	16%	10	9.4%
Type2	15	14.2%	14	13.2%
Type3	16	15.1%	09	13.8%
Type4	25	23.6%	00	0%



Location Of Placenta (By USG And Itraoperative Findings)

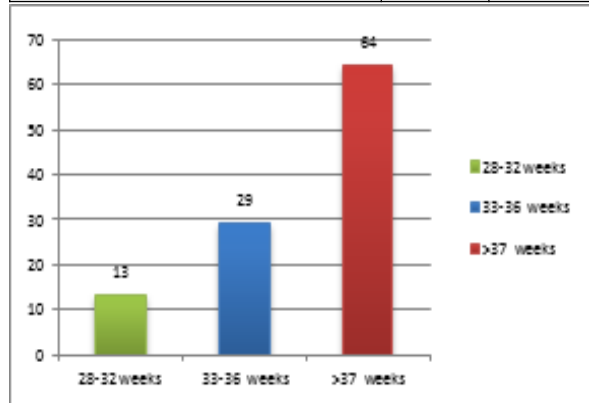
Table 3: Type Of Procedure

Type of procedure	Number of	Percentage
Cervico isthmic apposition	05	4.7%
B-lynch stitch	03	2.8%
Uterine artery ligation	02	1.9%
Emergency peripartum hysterectomy	05	4.7%
Uterineartery ligation followed by hysterectomy	02	1.9%
Emergency peripartum hysterectomy followed by internal iliac artery ligation	01	0.9%

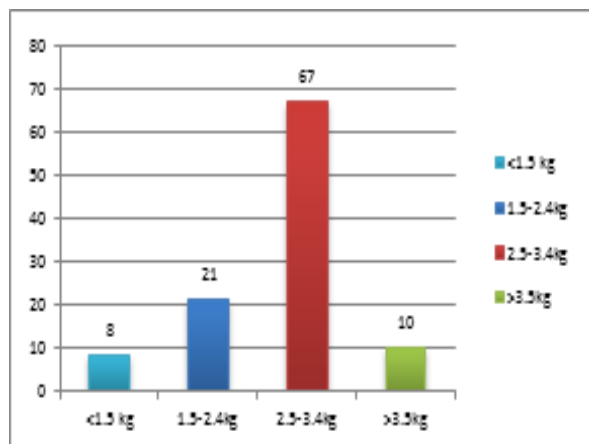
There were 92 (86.8) ICU admission, 4 (3.8) cases of acute kidney injury, 1 (0.9%) case of septicemia and 1 (0.9%) maternal death in the present series. Neonatal outcome has been shown in table 4.

Table 4: Neonatal Outcome

Factors	Number of patients	Percentage	
Gestation Age (maturity)	28-32weeks	13	12.3%
	33-36weeks	29	27.4%
	>37weeks	64	60.3%
Birthweight	<1.5kg	8	7.5%
	<1.5-2.4kg	21	19.8%
	2.5-3.4kg	67	63.3%
	>3.5kg	10	9.4%
Apgarscore(<7in5minutes)	13	12.3%	
NICUadmissions	32	30.2%	
Pretermbirth	42	39.7%	
Stillbirth	8	9.5%	
Earlyneonataldeath	15	14.2%	
Congenitalanomaly	2	1.9%	



Gestation Age (maturity)



Birth Weight

**DISCUSSION:**

In this study nearly 1/4<sup>th</sup> women were more than 30 years of age and more than 3/4<sup>th</sup> of women (79%) were multiparas. These results are comparable with the done by Ojha N et al, Wu S et al. 26.4% of women were managed by Macafee and Johnson protocol, which includes bed rest, periodic blood investigations and cross matched blood ready.

It causes decrease in perinatal mortality. Regarding previous obstetric history 36.8% had prior cesarean delivery and 7.5% had prior history of check curettage. In a retrospective cohort study of 399, 674 women. The rate for placenta previa at second birth for women with first vaginal birth was 4.4 per 1000 births, compared to 8.7 per 1000 birth for women with cesarean section at first birth. After adjustment, cesarean section at first birth remained associated with increased risk of placenta previa (Odds Ratio 1.6 95% CI 1.44-1.76).

In present study 7.5% cases had history of prior abortion. In a study conducted by Ojha et al, previous history of abortions (both spontaneous and induced) have been significantly associated with up to three times risk of placenta previa.

In present study 85.8% cases underwent cesarean delivery, main indications being major degree placenta previa, when patient is in exanguinated state due to bleeding or for other obstetric indications. Results are comparable to a study conducted by Anand et al.

There were 13 cases of postpartum hemorrhage cases in this study. Out of which 10 were managed by conservative surgical measures like cervico-isthmic apposition stitch (4.7%), B-lynch stitch (2.8%) and uterine artery ligation (1.9%). 3 cases underwent emergency peripartum hysterectomy when conservative measures failed to control bleeding. There were 5 cases of adherent placenta, all 5 underwent peripartum hysterectomy following cesarean delivery. All 5 cases of adherent placenta had prior cesarean deliveries. 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.

This fact is substantiated by a retrospective cohort study in Nova Scotia, Canada from 1988-1995 which had 388 cases of placenta previa. Maternal complications included postpartum bleeding (RR-1.86), hysterectomy (RR-33.26), blood transfusion (RR-10.05), septicemia (RR-5.55).

Neonatal morbidity in our study was also significant. 39.7 % of our patients were delivered before 37 weeks and 30.2% of newborns were admitted to the neonatal intensive care unit. We also observed a low 1-minute Apgar score. However, the 5-minute Apgar score was improved, and only 12.3% had a score <7. Morbidity was more marked before 34 weeks. A population based retrospective cohort study among singleton 544, 734 mother-infant pair showed that the association between low birth weight and placenta previa is chiefly due to preterm delivery and to lesser extend to fetal growth restriction.

**CONCLUSION**

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 in order to reduce the associated maternal and perinatal complications.

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