



## INCIDENCE OF PLACENTA PREVIA IN POST CAESAREAN PREGNANCY AND MATERNAL OUTCOME

**Sasindra Kumar Das**

Assistant Professor, Department Of Obstetrics & Gynaecology, Gauhati Medical College, Guwahati

**Bishnu Prasad Das\***

Professor, Department Of Obstetrics & Gynaecology, Gauhati Medical College, Guwahati \*Corresponding Author

**Zafreen Baruah**

Post Graduate Trainee, Department Of Obstetrics & Gynaecology, Gauhati Medical College, Guwahati

**ABSTRACT** **BACKGROUND:** Placenta previa, the most catastrophic complication not only poses a risk to the fetus but also endangers the mother's life.  
**AIM:** To find the incidence of placenta previa in patients with previous caesarean section and to study the maternal outcome.  
**METHODS:** A hospital based prospective study carried out in the Department of Obstetrics and Gynaecology of Gauhati Medical College and Hospital, Guwahati, Assam from 1st June 2018 to 31st May 2019. During this period, 2100 patients with history of previous caesarean section were identified and 66 patients were found to have placenta previa.  
**RESULTS:** The incidence of placenta previa was found to be 3.14%. The incidence increases with increase in number of caesarean section. Maximum patients were unbooked from rural area within the age group of 26-30 years. Outcome was studied by need of blood transfusion in 87.7%, postpartum haemorrhage in 19.6%, adherent placenta previa in 10.7%, hysterectomy in 15.1%, Internal iliac artery ligation in 6% and bladder injury in 9.09%.  
**CONCLUSION:** Incidence of placenta previa is high in patients with previous cesarean section.

**KEYWORDS :** Placenta Previa, Caesarean Hysterectomy, Morbid Adhesions

#### INTRODUCTION:

"Placenta previa is defined as placenta that is wholly or partially in the lower uterine segment"(1). It complicates approximately 1 in 200 deliveries (2). The overall incidence of placenta previa is 0.2 - 0.5% in studies done in western world (3,4). The global prevalence of placenta previa is 5.2 per 1000 pregnancies (5).

The exact etiology of placenta previa is unknown. The condition may be multifactorial and it is postulated to be related with multiparity, multiple gestation, advanced maternal age, previous caesarean section, previous abortion and smoking. Amongst the many advances in the obstetrics practice, one of the most apparent advances has been the progressive increase in the frequency of caesarean section (CS). CS rates are inexorably rising which has led to the possibility of negative impact on both maternal and neonatal health. CS has become an epidemic in present scenario and it is a reason for immediate concern and deserves serious attention. Caesarean section, though a widely accepted surgery these days has its own set of complications for both the mother and fetus. With the increase in primary Caesarean section, there is increase in the complications, particularly those due to abnormal placentation like placenta previa and morbid adhesions.

The association of previous caesarean section and placenta previa has been shown to be strong. A previous caesarean section scar is known to cause pathological changes in endometrial and myometrial tissue. It is thought that this scar tissue prevents the migration of the placenta to the uterine fundus (4,6,7,9).

#### AIMS AND OBJECTIVES:

1. To find out the incidence of placenta previa in patients with previous caesarean section.
2. To determine the maternal outcome of the previous caesarean section pregnancy with placenta previa.

#### METHODS AND MATERIAL:

The present study is a hospital based prospective study carried out in the Department of Obstetrics and Gynaecology of Gauhati Medical College and Hospital, Guwahati, Assam from a time period of 1<sup>st</sup> June 2018 to 31<sup>st</sup> May 2019. For the present study, all the pregnant women after crossing 28 weeks of gestations with history of previous caesarean section attending the department of Obstetrics and Gynaecology, Gauhati Medical College and hospital were taken as sample size. So a total of 2100 cases were identified and taken as

sample size.

#### • INCLUSION CRITERIA

Patients with history of previous caesarean section were included in the study.

#### • EXCLUSION CRITERIA

1. All primigravida.
2. History of other previous surgery of uterus.
3. History of abortion and medical termination of pregnancy.
4. Patient with any medical disorder.

#### METHODOLOGY:

For the study, all the antenatal cases with a history of previous caesarean section after crossing 28 weeks of gestation (period of viability) were included. The study protocol was approved by the Ethical Committee of Gauhati Medical College and Hospital. The cases were selected on the basis of their registration in the outpatient department or those cases which visited the emergency department with or without symptoms or being referred from primary or secondary health care center. Written and informed consent was obtained from the patients prior to the study. Clinical examination and Ultrasonography (USG) was done at the time of hospital visit to detect the cases with placenta pre via and then those patients were followed up till their delivery in our institute. The cases were managed according to their symptoms.

Asymptomatic patient or with history of bleeding per vagina and gestational age was less than 37 weeks were hospitalized and managed with expectant management (bed rest, iron, calcium and antibiotics, blood transfusion in cases of associated anaemia, tocolytics were necessary). In cases of uncomplicated cases crossing 37 weeks, elective caesarean section was carried out. Active Management was instituted if the bleeding was excessive or continuous or if the pregnancy reached beyond 37 completed weeks or in case of fetal distress or IUFD. After data collection appropriate statistical analysis was done using SPSS software.

#### RESULTS:

The present study is a study to find the incidence of placenta previa in patients with previous caesarean section who attended and delivered in the Department of Obstetrics and Gynaecology, Gauhati Medical College and Hospital, Guwahati, Assam. The maternal outcome of the

placenta previa patients were observed and analysed during the period of hospital stay.

Total number of deliveries in the department of Obstetrics and Gynaecology, Gauhati Medical College and Hospital in the year 2018 to 2019 is 17155. Patient with previous caesarean section was 2100. Out of which patients with placenta previa were 66. The incidence of placenta previa is 3.14%.

**Table 1: Incidence of placenta previa in previous caesarean pregnancy**

Total number of placenta previa	66
Total number of caesarean section	2100
Incidence	3.14%

**Table 2: Incidence of placenta previa with respect to number of previous caesarean sections**

No. of previous Caesarean deliveries	No. of Patients	No. of Placenta previa	Incidence
One	2050	60	2.9%
Two	45	5	11.1%
Three	5	1	20%

In the study, number of patients with placenta previa with previous one, two and three are respectively 60, 5 and 1. The incidence of placenta previa with respect to the number of previous caesarean sections are 2.9%, 11.1% and 20% respectively.

**Table3: Sociodemographic profile**

Parameter		Number	Percentages
Booking status	Booked	16	24.2%
	Unbooked	50	75.8%
Age	<20 years	1	1.5%
	21-30 years	47	71.2%
	>30 years	18	27.3%
Residence	Urban	19	28.8%
	Rural	47	71.2%

**Table-4: Showing Obstetric Evaluation**

Parameter		Number	Percentages
Gestational age at presentation	28-32 weeks	11	16.67%
	33-36 weeks	27	40.91%
	37-40 weeks	28	42.42%
APH	Present	54	81.8%
	Absent	12	18.2%
Presentation	Cephalic	53	80.3%
	Breech	10	15.2%
	Tranverse	3	4.5%

In the study, we found that 16.67%, 40.91% and 42.42% patients had gestational age at presentation from 28-32 weeks, between 33-36 weeks and between 37- 40weeks. The mean gestational age at presentation is 35.4 weeks, with a standard deviation of 2.94. In the study, APH as a presenting feature was present in majority of patients 81.8% and it was absent in 18.2% patients.

**Table 5: General factors**

General factors		No of patients	Percentages
General condition(Post Delivery)	Good	61	92.42%
	Poor	5	7.58%
Hb (post delivery)	<6 g/dl	2	3.03%
	6-9g/dl	24	36.36%
	9-11g/dl	38	57.58%
	>11g/dl	2	3.03%
Duration of Hospital stay	<1 week	43	65.15%
	1-2 week	16	24.24%
	>2week	7	10.61%

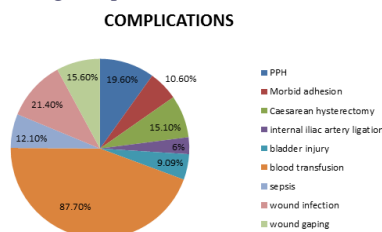
Through the present study, it was observed that after the surgery, 92.42% of women with placenta previa were in good general conditions and only 7.58 % women had poor condition. There were 5 patients which were admitted in ICU, out of which 2 patients died in ICU. These two patients were in exsanguinated state when they arrived at the hospital.

In the present study that, it was seen that post delivery 57.58% of

patients having haemoglobin level between 9 to 11g/dl while only 3.03 % patients were found to have haemoglobin level above 11g/dl post-delivery. While 36.3% had hemoglobin level between 6-9g/dl and 3.03% had less than 6 g/dl.

In the study it was found that 65.15 % of women with placenta previa were discharged within one week of delivery. Next 24.24% were released after a stay of between 1 to 2 weeks in the hospital, while 10.61% were discharged after 2 weeks.

**Chart 6: Showing Complications**



In evaluation of the complications, postpartum hemorrhage occurred in 19.6% patients and 10.7% patients had adherent placenta while caesarean hysterectomy was found in 15.6% patients. Internal iliac ligation was done in 6% patients in an attempt to control postpartum hemorrhage. In the study, 9.09% patients had bladder injury due to morbid adhesion of placenta. In the present study, it was found that 87.7% required blood transfusion. 68.1% needed 1-2 units, 13.6% needed 3-4 units and 6% needed >4 units of blood. Among the = post operative complication, sepsis was found in 12.1% patients, 21.2% patients had wound infection and 15.1% patients had wound gaping requiring secondary suturing.

**DISCUSSION**

In this study, the incidence of placenta previa was found to be 3.14% in the present study. There has been a strong association of placenta previa with previous caesarean section. The incidence found in our study is almost similar to the study conducted by Chattopadhyay et al (2.54%)(10), Kavitha et al (2.75%)(11) and Kaur et al (3.14%)(13). The number of patients with previous caesarean section being referred to our institute is high so the incidence in our study is higher. Also the number of primary caesarean sections has been increasing in recent years providing a higher incidence.

In our study, percentage of placenta previa with previous one, two and three are respectively 2.9%, 11.1%, 20%. The finding of our study is almost similar to the study of Saukhat et al (3.5%, 22.5%, 28%)(14) and Z Parvin (10%, 11.4%, 20%)(15) suggesting that with increase in the number of previous caesarean section, the incidence of placenta previa also increases.

The risk of placenta previa increases with increasing age. However, in our study, the incidence of placenta previa is found higher in the age group between 21-30 years than more than 30 years as more numbers of cases were found in the age group between 26- 30 years during our study tenure and also due to increase prevalence of early marriage in our part of country. The mean age group in our study is 28.4 years. The finding of our study has been supported by BellalaSwetha (17) and Kaur et al(13).

In our present study, we found that 16.67%, 40.91% and 42.42% patients had gestational age at presentation from 28-32 weeks, 33-36 weeks and >37 weeks. The mean gestational age in our study is 35.4 weeks. Our study is supported by study of Saima Aziz et al (18). In our study 81.8 % presented with bleeding at the admission while 18.2% cases were asymptomatic. Our study is in agreement with study of Kavitha et al(11). In the present study it was found that 80.3% cases with cephalic presentation, 15.2% with breech presentation, 4.5% with transverse presentation.

In the present study, the incidence of PPH is found to be 19.6%. Caesarean Hysterectomy and morbid adhesion was found in 15.6% and 10.6% cases in the present study. The finding of our study is almost similar to the study of Kavitha et al (11). In our present study, it was found that 87.7% required blood transfusion. The finding of the study

is similar to the study Kaur et al (13).

## CONCLUSION:

From the present study, it has been concluded that a previous caesarean section delivery is an important risk factor for the development of placenta previa in the subsequent pregnancy. The risk of placenta previa increases with escalation in the number of caesarean section. A pregnancy which is being complicated by placenta previa poses increased risk to the mother and fetus.

As caesarean section is an important risk factor for development of placenta previa, therefore efforts should be made to reduce the rate of caesarean section. Importance of advocating vaginal delivery should be reinforced as much as possible to reduce the incidence of caesarean section by proper counselling of the patient during the antenatal visits.

In all patients with previous caesarean delivery, ultrasonography should be done routinely to localize the placenta and for early diagnosis of placenta previa. These patients are at an increased risk of developing morbid adhesion, so routine screening should be mandatory.

Even with modern development in the field of obstetrics and neonatal care, placenta previa still continues to be a significant cause of maternal and perinatal morbidity and mortality in developing countries, therefore these cases should preferably be managed at tertiary care centres, where a team of expert obstetricians, anaesthetists, neonatologists and 24-hours blood transfusion facilities are available.

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