



MATERNAL MORBIDITY AND OUTCOME AND FETAL OUTCOME ASSOCIATED WITH PLACENTA PREVIA

Obstetrics & Gynaecology

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ABSTRACT

Background: Placenta previa are major causes of maternal morbidity, particularly in settings with rising cesarean section rates. **Aim:** To evaluate maternal outcomes and fetal outcome in cases of placenta previa **Methodology:** A retrospective descriptive observational study was conducted at Department of Obstetrics and Gynaecology, Shri M.P. Shah Govt. Medical College and Guru Gobind Singh Govt. Hospital, Jamnagar, Gujarat India. A total of 50 diagnosed cases of placenta previa were included. Data on demographic profile, clinical characteristics, management, and maternal outcomes were analyzed. **Results:** Most women were aged 25-30 years (40%) and multiparous (70%), with a high prevalence of previous cesarean section (40%). Placenta previa was more common than PAS. Cesarean hysterectomy was done in 22.5%. Postpartum hemorrhage (26%) was the most common complication. ICU admission (20%) Maternal mortality was 2% **Conclusion:** Placenta previa and associated with high maternal morbidity but generally favorable outcomes with timely diagnosis and multidisciplinary management.

KEYWORDS

Placenta Previa,, Maternal Outcomes, Cesarean Hysterectomy, Postpartum Hemorrhage, Fetal Outcome

INTRODUCTION

Placenta previa disorder represent some of the most serious placental implantation abnormalities encountered in modern obstetric practice and are major contributors to maternal morbidity and mortality worldwide [1]. These conditions are increasingly recognized as critical public health concerns, particularly in low- and middle-income countries, where access to timely diagnosis, blood transfusion services, and multidisciplinary obstetric care may be limited. Maternal outcomes associated with placenta previa is often severe, prolonged, and resource-intensive, underscoring the importance of understanding their clinical profile, risk factors, and consequences for maternal health. Placenta previa is defined as implantation of the placenta in the lower uterine segment, partially or completely covering the internal cervical os [2]. It typically presents in the second half of pregnancy with painless vaginal bleeding and is a leading cause of antepartum hemorrhage. The condition poses substantial risks to the mother, including acute blood loss, anemia, need for blood transfusion, emergency cesarean delivery, and increased likelihood of postoperative complications. Recurrent bleeding episodes often necessitate prolonged antenatal hospitalization, contributing to both physical and psychological stress for the mother and increasing healthcare utilization.

Placenta accreta spectrum disorders encompass a range of abnormal placental adherence conditions, including placenta accreta, increta, and percreta, characterized by pathological invasion of placental villi into the myometrium and, in severe cases, beyond the uterine serosa into adjacent organs [3]. PAS disorders are most commonly associated with placenta previa, particularly in women with a history of previous cesarean section or uterine surgery. The coexistence of placenta previa and PAS significantly amplifies maternal risk, transforming a potentially manageable obstetric condition into a life-threatening emergency at the time of delivery.

The rising incidence of placenta previa and PAS disorders has been closely linked to the global increase in cesarean section rates. Each subsequent cesarean delivery markedly increases the risk of abnormal placental implantation in future pregnancies. Additional risk factors include advanced maternal age, multiparity, prior uterine curettage, assisted reproductive techniques, and smoking. These trends have led

to a growing population of pregnant women at high risk for severe maternal complications, making the study of maternal outcomes in these conditions increasingly relevant [6].

Early antenatal diagnosis plays a crucial role in improving maternal outcomes in placenta previa. Advances in ultrasonography and magnetic resonance imaging have enhanced the ability to identify abnormal placental location and invasion before delivery. Prenatal recognition allows for planned delivery in tertiary care centers with availability of experienced obstetricians, anesthesiologists, interventional radiologists, blood bank support, and critical care facilities. Such multidisciplinary management has been shown to reduce intraoperative blood loss, emergency surgical interventions, and maternal mortality [7].

Despite improvements in diagnostic and management strategies, placenta previa continue to pose significant challenges in clinical practice. In many settings, delayed diagnosis, inadequate referral systems, and limited resources contribute to poor maternal outcomes. Emergency presentations with uncontrolled hemorrhage remain common, especially in peripheral and rural healthcare facilities. These challenges highlight the persistent gap between evidence-based recommendations and real-world obstetric care, particularly in resource-constrained environments.

In this context, a comprehensive evaluation of maternal outcomes associated with placenta previa is essential. Understanding the spectrum of maternal complications, patterns of management, and factors influencing outcomes can inform clinical decision-making and policy development. Such insights are critical for optimizing antenatal screening, strengthening referral networks, and improving preparedness for high-risk deliveries. Ultimately, focused research on maternal outcomes in these placental disorders contributes to the broader goal of reducing preventable maternal morbidity and mortality and improving the quality of obstetric care.

METHODOLOGY

Study Design: This study was designed as a retrospective descriptive observational study aimed at evaluating maternal outcomes in cases of placenta previa. The retrospective design enabled systematic analysis

of existing hospital records to assess clinical characteristics, management patterns, and maternal outcomes in a real-world clinical setting.

Study Area: The study was conducted in the Department of Obstetrics and Gynaecology shri M. P. Shah Medical College and G.G, Hospital, Jamnagar, Gujarat, India.

Study Duration: The study was carried out over a period of one year, from January 2025 to April 2026

Study Participants: The study population consisted of pregnant women diagnosed with placenta previa who were admitted and delivered at G.G. Hospital during the study period.

Inclusion Criteria

- Pregnant women diagnosed with placenta previa by ultrasonography or intraoperative findings
- Confirmed cases of placenta accreta spectrum disorders (placenta accreta, increta, or percreta) based on intraoperative findings and/or histopathological confirmation
- Women who delivered at G.G. Hospital during the study period
- Availability of complete medical records

Exclusion Criteria

- Pregnant women with antepartum hemorrhage due to causes other than placenta previa or PAS
- Cases with incomplete or missing medical records
- Women referred after delivery from other institutions
- Patients with multiple gestations

Sample Size: A total of 50 cases were included in the study. All eligible cases meeting the inclusion criteria during the study period were included.

Procedure: Hospital records of eligible patients were retrieved from the medical records department. Case identification was performed using labor room registers, operation theatre logs.

Data were collected using a predesigned and structured data collection proforma. Maternal demographic variables such as age, parity, gravidity, gestational age at delivery, and history of previous cesarean sections were recorded. Clinical details included type of placenta previa, presence and grade of placenta accreta spectrum disorder, antenatal diagnosis, mode of delivery, and intraoperative findings.

Maternal outcome parameters such as estimated blood loss, requirement of blood and blood product transfusion, need for cesarean hysterectomy, surgical complications (e.g., bladder injury, uterine rupture), postoperative morbidity, intensive care unit (ICU) admission, duration of hospital stay, and maternal mortality were documented. All data were cross-checked to ensure accuracy and completeness before final analysis.

RESULT

MATERNAL ASSOCIATION: TABLE 1 shows the demographic and obstetric profile of the study participants (N = 50) Majority of women are Multigravida (70%) and less common in Nulliparous women(16%). the women who have undergone any procedure like suction and currtage or D & C in past also have a risk of placenta previa in future(14%). Additionally, when assessing previous cesarean section history, 40% of participants had previous cesarean. Overall, the table indicates that most participants were in the middle reproductive age group, with higher gravidity, multiparity, and a significant proportion having a history of cesarean delivery.

MATERNAL RISK FACTOR

	PERCENTAGE
Maltigravida	70
Previous cesarean	40
H/o D&C	14
Previous pregnancy placenta previa	40

MODE OF DELIVERY: 100% Cesarean section is mode of delivery in placenta previa. Better outcome in Elective cesarean then emergency cesarean section as the already known case of placenta previa diagnosed by ultrasound and blood products can be prepared.

MATERNAL COMPLICATION: Table 2 presents the Maternal

morbidity and Mortality of Mother related to placenta previa, which shows 26% mother had Post Partum Hemorrhage, 36% mother need blood transfusion, 20% mother admitted to ICU, 40% mother need Hysterotomy due to active bleeding in less than 28 weeks and 2% (1) mother died due severe bleeding and septicemia in placenta previa.

MATERNAL CQMPLICATIQN(N-50)

2. MATERNAL CQMPLICATIQN(N-50)		
Comlication	case	percentage
Post Partum Haemorrhage	13	26
Blood transfusion	15	36
ICU Admission	10	20
Cesarean hysterotomy	20	40
Maternal Mortality	01	2

FETAL OUTCOME: TABLE 3 Shows fetal outcome in placenta previa as 30% newborn are preterm of which 20% required NICU admission and of which 10% died due to prematurity. Still birth are seen in 10% cases. Fetal outcome depends on Maternal age of gestation at which active bleeding begins . 50% babies delivers at term or after 7 month of pregnancy are healthy babies and have a good prognosis

3. FETAL OUTCOME	PERCENTAGE
Preterm	30
NICU admission	20
Still birth	20
Neonatal mortality	10

CONCLUSION

Placenta previa and placenta accreta spectrum disorders remain significant contributors to maternal morbidity, particularly among multiparous women with a history of cesarean section. The study demonstrated that although most cases were managed successfully with elective cesarean delivery, a substantial proportion experienced severe complications such as postpartum hemorrhage, high blood transfusion requirements, and the need for cesarean hysterectomy. Maternal morbidity was considerable, with notable rates of ICU admission and prolonged hospital stay, reflecting the clinical severity of these conditions. Despite these challenges, the majority of patients had favorable postoperative outcomes, with low maternal mortality. These findings highlight the critical importance of early antenatal diagnosis, timely referral, and multidisciplinary management to reduce complications and improve maternal outcomes in high-risk pregnancies.

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