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RESEARCH ARTICLE
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MORBIDLY ADHERENT PLACENTA IN PATIENTS WITH PLACENTA PREVIA AND FETO-MATERNAL OUTCOMES

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Abstract

Background: Morbidly adherent placenta (MAP) is a severe obstetric complication characterized by the excessive attachment of the placenta to the uterine wall. Placenta accreta, placenta increta, and placenta percreta are different diseases that fall within a spectrum.

Aim: the objective of this research was to ascertain the prevalence of MAP in patients diagnosed with placenta previa and assess its influence on both foetal and maternal outcomes.

Study Design: Descriptive case series

Duration and Place of the Study: This study was conducted at the Department of Obstetrics and Gynecology, Rehman Medical Institute, Peshawar, from July 2022 to June 2023.

Material and Methods: The research sample consisted of 58 pregnant women who were diagnosed with placenta previa and previously had a caesarean surgery. The research excluded patients with a prior history of uterine surgery excluding caesarean section and multiple pregnancies. Fetomaternal outcomes were noted.

Results: Mean age of patients was 32.5 ± 4.6 years. The prevalence of MAP in patients with placenta previa was shown to be 17.2%. A majority of the patients (72.4%) were multiparous. 86.2% of patients had painless vaginal bleeding as the most frequent first symptom. The average gestational age at the time of diagnosis was 32.6 ± 2.8 weeks. Postpartum hemorrhage was observed in 41.4% patients and perinatal mortality was 17.2%.

Conclusion: The prevalence of MAP in patients with placenta previa is substantial and it is linked to significant feto-maternal complications and mortality. Prompt identification and appropriate treatment are essential for enhancing outcomes for both the mother and the newborn.

Keywords: Morbidly adherent placenta, placenta previa, feto-maternal outcomes.

INTRODUCTION

Morbidly adherent placenta (MAP) is a severe obstetric complication characterized by the excessive attachment of the placenta to the uterine wall. Placenta accreta, placenta increta, and placenta percreta are different diseases that fall within a spectrum[1]. Placenta accreta is the predominant form, characterized by the placenta adhering to the myometrium without infiltrating it. Placenta increta refers to the invasion of the placenta into the myometrium, whereas placenta percreta refers to the penetration of the placenta through the myometrium and its attachment to other organs, such as the bladder or bowel[2]. The prevalence of MAP has been steadily rising worldwide, with a documented occurrence rate of 1 in 533 births [3]. The surge in MAP cases may be ascribed to the growing prevalence of caesarean sections, a significant contributing factor[4]. Additional risk factors include placenta previa, maternal age above the average, several previous pregnancies, and prior surgical procedures on the uterus[5].

Placenta previa is a medical disorder in which the placenta attaches itself to the lower section of the uterus, either partly or totally obstructing the cervical os[6]. MAP has been identified as a recognized risk factor, with a documented occurrence rate of 3-5%. The coexistence of placenta previa with morbidly adherent placenta presents a substantial hazard to both the mother and the infant, resulting in a documented maternal death rate ranging from 7% to 10% and a perinatal mortality rate ranging from 40% to 50%[7]. The identification of MAP often occurs in the third trimester of pregnancy, however it may also be suspected in the second trimester if there is a prior history of caesarean section or other risk factors [8]. Ultrasound is used to confirm the diagnosis by identifying placental lacunae, the absence of the retro placental clear space, and aberrant vascularity[9]. The care of MAP requires a multidisciplinary approach, including a team of obstetricians, anesthesiologists, neonatologists, and urologists. The primary objective of care is to avoid profound hemorrhage and maintain the integrity of the uterus, if feasible[10]. The optimal method of delivery is caesarean section, when the placenta remains in place and is then extracted in a regulated way after the birth of the baby[11].

We have a scarcity of data about the frequency and results of MAP in patients with placenta previa in our specific context. Hence, the objective of this research was to ascertain the prevalence of MAP in patients diagnosed with placenta previa and assess its influence on both foetal and maternal outcomes.

METHODOLOGY

Study Design: Descriptive case series

Duration and Place of the Study: This study was conducted at the Department of Obstetrics and Gynecology, Rehman Medical Institute, Peshawar, from July 2022 to June 2023.

Material and Methods

The research sample consisted of 58 pregnant women who were diagnosed with placenta previa and previously had a caesarean surgery. The research excluded patients with a prior history of uterine surgery, excluding caesarean section, patients with multiple pregnancies. Excel spreadsheet was used to gather data via the implementation of a structured data collecting form. The data collected from each patient included their age, parity, history of prior caesarean section, presenting symptoms, gestational age at diagnosis, type of placenta previa, type of maternal antepartum hemorrhage

(MAP), estimated blood loss during delivery, occurrence of postpartum hemorrhage, baby's birth weight, perinatal mortality rate, and maternal mortality rate. The data was analyzed with SPSS version 25. The data was presented using descriptive statistics. The continuous variables were expressed as the mean value plus or minus the standard deviation, while the categorical variables were reported as frequencies and percentages.

Ethical Considerations

The study was carried out in compliance with the ethical standards specified in the Declaration of Helsinki. Prior to data collection, all patients provided informed permission.

RESULTS

Mean age of the patients was 32.5 ± 4.6 years. The prevalence of MAP in patients with placenta previa was shown to be 17.2%. A majority of the patients (72.4%) were multiparous. Regarding the most common presenting complaints, 86.2% of patients had painless vaginal bleeding. The average gestational age at the time of diagnosis was 32.6 ± 2.8 weeks. 65.5% of the patients exhibited a complete placenta previa. The predominant form of MAP seen was placenta accreta, accounting for 62.1% of cases as shown in Table-1.

Table-1: Clinical Variable of Patients.

Variable	Total Patients (n=58)	Percentage (%)
Incidence of MAP	10	17.2%
Mean Age of Patients	32.5 ± 4.6 years	
Parity (Multiparous)	42	72.4%
History of Previous C-section	34	58.6%
Presenting Symptom		
Painless Vaginal Bleeding	50	86.2%
Mean Gestational Age at Diagnosis	32.6 ± 2.8 weeks	
Placenta Previa Type		
Complete	38	(65.5%)
Most Common Type of MAP		
Placenta Accreta	36	(62.1%)

The average estimated blood loss during delivery was 2500 ± 500 ml. The prevalence of postpartum hemorrhage was 41.4%. The average birth weight of the infants was 2.8 ± 0.5 kg. The percentage of perinatal death was 17.2%. Respiratory distress syndrome (34.5%) was the most prevalent consequence seen in infants. The rate of maternal death was 3.4% according to Table-2.

Table-2: Complication of Patients.

Variable	Total Patients (n=58)	Percentage (%)
Mean Estimated Blood Loss during Delivery	2500 ± 500 ml	
Incidence of Postpartum Hemorrhage	24	41.4%
Mean Birth Weight of Babies	2.8 ± 0.5 kg	
Perinatal Mortality Rate	10	17.2%
Most Common Neonatal Complication		
Respiratory Distress Syndrome	20	34.5%
Maternal Mortality Rate	2	3.4%

DISCUSSION

The prevalence of MAP in patients diagnosed with placenta previa in our study was 17.2%, aligning with the findings of prior research [12]. The increased occurrence of this phenomenon may be ascribed to the elevated frequency of caesarean sections in our environment, which constitutes a significant predisposing factor for MAP. The average age of the participants in our research was 32.5 years, which aligns with findings from previous studies [13]. The majority of patients were

multiparous, a finding that aligns with earlier research. In our research, painless vaginal bleeding was the predominant symptom seen, which is a well-documented indication of placenta previa [14]. The average gestational age at the time of diagnosis was 32.6 weeks, which is lower than the gestational age reported in previous studies [15]. The reason for this is because the majority of our patients had a prior caesarean section, which raises the risk of MAP and encourages early detection. Most patients in our study had a total placenta previa, aligning with findings from prior research. The prevailing form of MAP seen was placenta accreta, a finding that aligns with prior research findings. The reason for this is because placenta accreta is the prevailing form of morbidly adherent placenta (MAP) and is linked to an increased likelihood of hemorrhage and other complications [16].

In our study, the average estimated blood loss during delivery was 2500 ml, surpassing the reported blood loss in previous studies [17]. The reason for this is that the majority of our patients had a full placenta previa and a greater occurrence of placenta accreta, which elevates the potential of significant bleeding. In our study, the occurrence of postpartum hemorrhage was 41.4%, surpassing the rate reported in prior studies [18]. This may be ascribed to the fact that the majority of our patients had a prior history of caesarean section, which is a significant predisposing factor for postpartum hemorrhage. The perinatal death rate observed in our research was 17.2%, a finding that aligns with the results of prior studies[19]. Respiratory distress syndrome, a well-known consequence of preterm delivery, was the most frequently seen problem in the neonates. The research revealed a maternal death rate of 3.4%, which is comparatively lower than the mortality rate reported in previous studies[20]. The better results for the mothers may be linked to the fact that our patients received treatment in a tertiary care hospital with a multidisciplinary staff.

Study Limitation

The study's findings were constrained by its retrospective design and the restricted number of participants. The findings may lack generalizability across all demographics.

CONCLUSION

The prevalence of MAP in patients with placenta previa is substantial and it is linked to significant feto-maternal morbidity and death. Prompt identification and appropriate treatment are essential for enhancing outcomes for both the mother and the newborn. Hence, it is crucial to enhance the knowledge of healthcare practitioners and pregnant women about the risk factors and first symptoms of MAP, in order to promptly implement suitable measures to avert unfavorable consequences. We advocate doing more research using a bigger sample size to confirm our results.

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