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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 characterized by the placenta's aberrant attachment to the uterus. It affects about 1 in 500 pregnancies and increases the risk of serious side effects, such as heavy bleeding after delivery, the need for a hysterectomy, and hospitalization in an intensive care unit. Those who have placenta previa, and especially those who have had a C-section delivery, are more at risk for developing MAP. Many Pakistani women with critical obstetric disorders go untreated because of a lack of knowledge and understanding of the importance of prenatal care. Many women either obtain their prenatal care at larger clinics or maternity homes, where the diagnosis is either made after the patient experiences significant bleeding or not at all, or they do not receive prenatal care at all.

Objective: To examine the prevalence of morbidly adherent placenta (MAP) and feto-maternal consequences in patients with placenta previa (PP).

Study design: A retrospective study

Place and Duration: This study was conducted in SESSI Landhi Hospital, Karachi Pakistan from November 2021 to November 2023.

Methodology: The study included information from postpartum women with placenta previa who had received an ultrasound diagnosis but varied in age, race, and ethnicity. The diagnosis of a morbidly adherent placenta was made after a thorough medical and physical evaluation of the patients, which included relevant tests like MRI and color Doppler ultrasonography. Medical indications were

used to determine the most appropriate mode of cesarean delivery, which might be either an elective lower segment cesarean section (ElLSCS) or an emergency lower segment cesarean section (EmLSCS).

Result: A total of 50 patients were included in this research. The participants in this study had a mean gestational age of 34.79 weeks and an average age of 30.12 years. Out of all the cases, 48% had emergency C-sections, and 52% had elective ones. With type IV accounting for 54% of cases in this study, type III for 30% of the women, and type II for 16% of the cases, these were the most common types of placenta previa. In terms of maternal complications, antepartum hemorrhage (APH) occurred in 30% of patients, 40% of cases required cesarean hysterectomies, and no maternal deaths occurred. Fetal outcomes included low birth weight in 48% of babies and a 26% admission rate to the NICU.

Conclusion: In conclusion, placenta previa patients had a high frequency of morbidly adherent placenta, and this condition was clearly linked to poor feto-maternal outcomes.

Keywords: placenta previa, morbidly adherent placenta, feto-maternal outcomes

INTRODUCTION

Morbidly Adherent Placenta is characterized by the placenta's aberrant attachment to the uterus [1]. It affects about 1 in 500 pregnancies and increases the risk of serious side effects, such as heavy bleeding after delivery, the need for a hysterectomy, and hospitalization in an intensive care unit [2]. Those who have placenta previa and especially those who have had a C-section delivery are more at risk for developing MAP [3].

A total of 15% of cases where women require blood transfusions due to obstetrical hemorrhage have a placenta that is morbidly adherent [4]. Nonetheless, there is a considerable risk of mortality and morbidity in these circumstances. It is thought that MAP formation is more common in recurrent pregnancies, a sign of women's increased gravidity and advanced age [5]. Although the exact causes of MAP are yet unknown, several pregnancies, the old age of mothers, and previous C-section deliveries are thought to be risk factors [6, 7]. Placenta accreta is 40% more likely to occur in women who have had two or more cesarean deliveries with placenta previa in the anterior or central region of the uterus [8].

Furthermore, when placenta previa and MAP are combined, problems are more common than when placenta previa is alone [9]. Moreover, subtyping MAP according to placenta accreta, increta, and percreta indicates higher levels of invasion and a higher risk of health issues. The anomalous positioning of the placenta within the uterus is the cause of the increased risk of MAP in women diagnosed with placenta previa. Nonetheless, placenta previa is frequently associated with an increased risk of developing an adherent placenta.

Many Pakistani women with critical obstetric disorders go untreated because of a lack of knowledge and understanding of the importance of prenatal care [10]. Many women either obtain their prenatal care at larger clinics or maternity homes, where the diagnosis is either made after the patient experiences significant bleeding or not at all, or they do not receive prenatal care at all. Color Doppler ultrasonography is the principal imaging modality used to identify placenta invasion. However, because different US criteria were used in each investigation and placental invasion was not consistently determined by various observers, the validity and consistency of previous research on morbidly adherent placenta were called into question.

As a result of the rising frequency of cesarean deliveries, there has been a noticeable rise in the prevalence of morbidly adherent placenta and placenta previa instances in recent years. It is crucial to remember, though, that because placenta previa has been identified as a risk factor for MAP, this study was restricted to women with this condition. The purpose of this focused strategy was to increase the possibility of finding instances of this illness among the participants in the research.

METHODOLOGY

The study included information from postpartum women with placenta previa who had received an ultrasound diagnosis but varied in age, race, and ethnicity.

Women having a diagnosis of placenta previa who also had a concurrent uterine anomaly, such as a bicornuate, septate, or unicornuate uterus, were excluded from the study. Furthermore, those with a history of bleeding or coagulation disorders, diabetes, hypertension, fetal abnormalities, or other pregnancy-related issues were excluded from the study.

Age, parity, gestational age at diagnosis, and previous obstetric records were among the demographic information that was collected. The diagnosis of a morbidly adherent placenta was made after a thorough medical and physical evaluation of the patients, which included relevant tests like MRI and color Doppler ultrasonography. Medical indications were used to determine the most appropriate mode of cesarean delivery, which might be either an elective lower segment cesarean section or an emergency lower segment cesarean section.

Operationally, it was determined that the placenta was morbidly adherent. Through the study questionnaire, information about difficulties, blood loss, and delivery methods was acquired and recorded regarding obstetric and perinatal outcomes. A study questionnaire was used to collect data, and SPSS version 26 was used for analysis.

RESULTS

A total of 50 patients were included in this research. The participants in this study had a mean gestational age of 34.79 weeks and an average age of 30.12 years. Out of all the cases, 48% had emergency C-sections, and 52% had elective ones. Table 1 shows the demographic characteristics of the participants.

Table No. 1: demographic characteristics of the participants.

Variables	**N**	**%**
Age in years (mean)	30.12	
Gestational age in weeks (mean)	34.79	
C-section type		
● **Emergency**	24	48
● **Elective**	26	52
Placenta previa degree		
● **II**	8	16
● **III**	15	30
● **IV**	27	54

Table number 2 shows the frequency of MAP in the participants who had placenta previa.

Table No. 2 frequency of MAP in the participants who had placenta previa

Variables	**N**	**%**
MAP		
● **No**	32	64
● **No (Accreta)**	9	18
● **Yes (Increta)**	7	14
● **Yes (Percreta)**	2	4

Table number 3 shows the feto-maternal outcomes of the participants.

Table No. 3: feto-maternal outcomes of the participants

Variables	N	%
NICU admission	13	26
Low birth weight	24	48
Maternal outcomes		
● **Cesarean hysterectomies**	20	40
● **APH**	15	30
● **Mortality**	-	-
Apgar score at birth		
● **3**	15	30
● **5**	3	6
● **6**	23	46
● **7**	6	12
● **8**	3	6
Apgar score at 10 minutes		
● **4**	4	8
● **5**	6	12
● **6**	9	18
● **7**	4	8
● **8**	24	48
● **9**	3	6

DISCUSSION

The placenta adhering to the lower part of the uterus and potentially blocking all or a portion of the cervix is the main cause of the common pregnancy issue known as placenta previa [11]. Moreover, placenta previa is particularly concerning because it is linked to a higher chance of a morbidly adherent placenta, which can result in more serious health issues and possibly even the death of pregnant women. The purpose of this study was to assess the prevalence of morbidly adherent placenta in placenta previa instances and investigate the consequences for the mother and the fetus.

Examining all 50 patients with a diagnosis of placenta previa, it was found that 36% of these women had a placenta that was morbidly adherent. In accordance with this, 45 out of 100 cases of placenta previa showed a morbidly adherent placenta, according to Abdel-Hamid AS et al.'s research [12]. Similar results were also obtained by Markley JC et al. [13]. In their study, Haidar ZA et al. recorded 23 occurrences of morbidly adherent placentas among 50 women; 52.2% of those cases were classified as severe MAP [14]. It's crucial to remember that these studies did not report on clinical outcomes; instead, they only looked at diagnostic accuracy.

Placenta previa varies in frequency in poor countries according to their unique demographics, but it is generally more common there than in developed ones. These higher rates in underdeveloped nations can be attributed to poor nutritional status, restricted access to appropriate prenatal care, and an increase in cases of maternal anemia. The participants in this study had a mean gestational age of 34.79 weeks and an average age of 30.12 years. Out of all the cases, 48% had emergency C-sections, and 52% had elective ones. It is important to note that these results support those from other studies [15, 16].

With type IV accounting for 54% of cases in this study, type III for 30% of the women, and type II for 16% of the cases, these were the most common types of placenta previa. In a similar vein, Maqsud M et al. observed that grade IV placenta previa accounted for 41.7% of cases, with grade II accounting for 25.8%, grade III accounting for 20.8%, and grade I accounting for 11.7% of cases [17]. Perveen S et al. also reported that type II placenta previa was found in 18% of the patients, type III in 28% of the cases, and type IV in 40% of the cases, which is consistent with their findings [18].

This study found that individuals with placenta previa and morbidly adherent placenta had a significant increase in unfavorable outcomes for both the mother and the fetus, as well as a greater prevalence of cesarean hysterectomies. These outcomes were in line with those of Sultana R et al., who found that women with placenta previa and adherence had significantly higher rates of peripartum hysterectomies, surgical complications, and ICU admission than women without adherence [19]. Similar findings were also reported by Afzal S et al. [20].

CONCLUSION

In conclusion, placenta previa patients had a high frequency of morbidly adherent placenta, and this condition was clearly linked to poor feto-maternal outcomes.

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