

# Frequency of Morbidly Adherent Placenta and Associated Complications in Patients with Previous Cesarean Sections

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## ABSTRACT

**Aim:** To calculate the frequency of morbidly adherent placenta in pregnant women presenting with history of cesarean section in previous pregnancy and to assess the frequency of post-operative complications in patients with abnormal adherence of placenta.

**Study design:** Descriptive case series

**Place and duration of study:** Department of Obstetrics & Gynecology Unit IV, Lady Aitchison Hospital, Lahore, from 2<sup>nd</sup> September 18, 2019 to 2<sup>nd</sup> March, 2020.

**Methodology:** Two hundred and forty five females admitted in the labour room fulfilling the inclusion criteria were recruited in the study. The females, then underwent ultrasonography. Placental position was checked on ultrasound and if placenta was not in position then it was labeled as a case of morbidly adherent placenta. Then females were followed during and after delivery, obstetrical complications like postpartum hemorrhage, and hysterectomy were noted.

**Results:** The mean age of the patients was 29.34±5.58 years. 60(24.5%) patients were primipara, 60(24.5%) were Bipara, 62(25.3%) were tripara, and 63(25.7%) Quadripara. The mean gestational age was 37.08±1.38 weeks.

**Conclusion:** 14.3% women cesarean section in previous pregnancy had morbidly adherent placenta in this pregnancy. Among these women (69%) suffered from Postpartum hemorrhage and (51%) underwent hysterectomy. This gives an idea that a significant number of patients with low lying placenta and previous section result in morbidly adherent Placenta which may lead to life threatening sequel.

**Keywords:** Adherent placenta, Morbidly, Complications, Postpartum hemorrhage, Hysterectomy

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## INTRODUCTION

The abnormal adherence of placenta to the adjacent uterine wall is known as morbidly adherent placenta. There is a life threatening condition as it leads to severe hemorrhage during and after delivery<sup>1,2</sup>.

Morbidly adherent placenta is a grave complication which is coming up with increasing incidence of C section. It is seen in 1:2500 deliveries. Women with previous two caesarean sections and placenta previa are at greater risk and also those with history of damage to the endometrial lining<sup>3</sup>.

Morbidly adherent placenta is classified into three types according to area of placental involvement and severity of invasion of chorionic villi i.e. placenta accreta, increta and percreta. This classification depends on placental intrusion of decidua basalis, myometrium, serosal surface involvement of surrounding structures like urinary bladder and bowel<sup>4,5</sup>.

Morbidly adherent placenta carries a great risk to pregnant female and her fetus. It may lead to torrential loss of blood resulting in dire consequences. This complication has been on the rise due to several reasons<sup>6,7</sup>.

The successful management of morbidly adherent placenta consists of an involvement of a specialist team with great emphasis on the antenatal diagnosis of the condition and preparation for the surgical management in expert hands. Most skilled team should be available for these patients<sup>8</sup>.

In a local study, the frequency of morbidly adherent placenta in scarred uterus was found to be 1.83/1000 deliveries, which was less than reported in previous study i.e. 1/274.8 deliveries. Among such patients 78% underwent hysterectomy. In a study the morbidly adherent placenta was found in 6% cases.<sup>11</sup> Eighty percent of cases of adherent placenta were seen to end up in severe postpartum bleeding and 70 percent ended up in peripartum hysterectomy<sup>9-12</sup>.

One local study showed that postpartum hemorrhage occurred in 28.4% cases and hysterectomy was performed in 6.05% cases of adherent placenta.<sup>13</sup> Another local study reported that postpartum hemorrhage occurred in 71.42% cases and hysterectomy was performed in 28.57% cases of adherent placenta in scarred uterus<sup>14</sup>.

## MATERIALS AND METHODS

This descriptive case series was conducted at Gynecology Unit IV, Lady Aitchison Hospital Lahore from 2<sup>nd</sup> September 19 to 2<sup>nd</sup> March 2020. Two hundred and forty five females admitted in labour room fulfilling inclusion criteria were selected for the study. Females of age 18-40 years, parity <5, presenting with history of C-section in previous pregnancy with complications like antepartum hemorrhage (on clinical examination) were included in the study. Females with medical problems i.e. diabetes, hypertension, abnormal renal function reports, abnormal liver function reports, cardiovascular disease, autoimmune diseases were excluded. Informed consent and demographic information were obtained. Then females

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underwent ultrasonography by a single senior radiologist having at least 4 years of residency experience with assistance of researcher. Placental position was assessed and if placenta was not in its actual position then it was labeled as morbidly adherent placenta. Then females were followed in ward for delivery and after delivery, obstetrical complications like postpartum hemorrhage, and hysterectomy were noted. The patients who had complications were managed as per hospital protocol. Data was entered and analyzed in SPSS version 20. Chi-square test was applied for comparing the outcome in stratified groups. P value  $\leq 0.05$  was considered significant.

## RESULTS

The mean age of the patients was  $29.34 \pm 5.58$  years. There were 60 (24.5%) patients with primipara, 60 (24.5%) with Bipara, 62 (25.3%) with tripara, 63 (25.7%) with Quadripara. The mean gestational age in this study was  $37.08 \pm 1.38$  weeks the minimum age was 35 weeks and maximum was 39 weeks. There were 35 (14.3%) patients with morbidly adherent placenta and 210 (85.7%) had no morbidly adherent placenta (Fig. 1). There were 16 (6.5%) patients with accreta type of morbidly adherent Placenta, 10 (4.1%) were having increta and 9 (3.7%) were having percreta type of morbidly adherent placenta (Table 1). There were 24 (9.8%) patients who were having postpartum hemorrhage while 11 (4.5%) have no postpartum hemorrhage. There were 18 (7.3%) patients with hysterectomy while 17 (6.9%) were having no Hysterectomy while 210

(85.7%) patients were having no morbidly adherent Placenta (Fig. 2). There was no significant association between age groups and Morbidly Adherent Placenta as the p-value was not significant ( $p=0.29$ ). There was no link between Gestational age groups and Morbidly Adherent Placenta as the p-value was insignificant [ $p=0.11$ ] (Table 2). There was no significant association between Parity and Morbidly Adherent Placenta as the p-value was insignificant [ $p=0.10$ ] (Table 3). No significant association was seen between postpartum hemorrhage ( $p=0.501$ ) and hysterectomy ( $p=0.102$ ) with age of women. Postpartum hemorrhage was prominently linked with gestational age ( $p\text{-value}=0.043$ ) while hysterectomy had no significant association with gestational age of women ( $p=0.278$ ). Parity status of women had no significant impact on postpartum hemorrhage ( $p\text{-value}=0.309$ ) and hysterectomy. ( $P\text{-value}=0.145$ )

Fig. 1: Frequency of morbidly adherent placenta

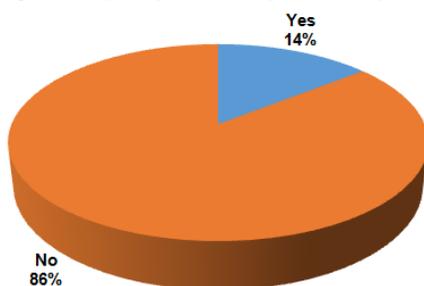


Table 1: Types of Morbidly adherent Placenta

Type of morbidly adherent placenta	No.	%
Accreta	16	46.0
Increta	10	29.0
Percreta	9	26.0

Fig. 2 Frequency of hysterectomy

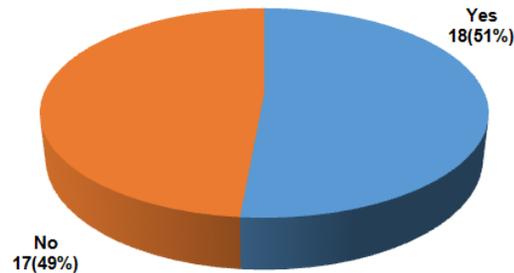


Table 2: Comparison of morbidly adherent placenta according to age

Age (years)	Morbidly adherent placenta		Total
	Yes	No	
20-25	13 (37.1%)	66 (31.4%)	79 (32.2%)
26-31	6 (17.1%)	63 (30.0%)	69 (28.2%)
32-38	6 (45.7%)	81 (38.6%)	97 (39.6%)
Total	35	210	245

Chi-square=2.45 p-value=0.29

Table 3: Comparison of morbidly adherent placenta according to parity

Parity	Morbidly adherent placenta		Total
	Yes	No	
Primipara	9 (25.7%)	51 (24.3%)	60 (24.5%)
Bipara	4 (11.4%)	56 (26.7%)	60 (24.5%)
Tripara	8 (22.9%)	54 (25.7%)	62 (25.3%)
Quadripara	14 (40.0%)	49 (23.3%)	63 (25.7%)
Total	35	210	245

Chi-square=6.21 p-value=0.10

## DISCUSSION

A placenta which is adherent to the previous scar of cesarean section is a dangerous condition with horrendous complications. It leads to substantial effects on mother due to its association with sequel like hemorrhage at the time of delivery and thereafter<sup>15</sup>.

Keeping a high index of suspicion for morbidly adherent placenta helps in saving the life of a mother. This helps in diagnosing the condition by taking history and performing an ultrasound. Both gray scale ultrasound and color Doppler examination are very accurate in predicting the sonographic patterns of placenta accreta<sup>16</sup>.

The risk factors associated with abnormal placental adherence include uterine surgeries, previous cesarean sections, IVF pregnancy and increasing maternal age. Avoiding these risk factors will certainly lead to decreased rate of morbidly adherent placenta<sup>17,18</sup>.

According to Desai et al<sup>19</sup> frequency of morbidly adherent placenta in their study group was 90% were previous caesarean section ranging from 1 to 3, whereas the frequency of morbidly adherent placenta in our study was 14.3% overall. In a study done by Memon et al<sup>20</sup> observed that frequency of morbidly adherent placenta in these patients 89.74% in patients admitted with placenta

previa, which very high as compared to the frequency seen in our study.

Clark et al found an association of placenta previa with caesarean section. There was a proportionate increase in cases of abnormally adherent placenta with increasing number of cesarean sections.<sup>5</sup> Another study quotes that placenta accreta was seen in 39% of those who had two cesarean sections previously. This is more than the frequency seen in our study which was 14.3%<sup>14</sup>.

It has also been observed that about 75% cases of morbidly adherent placenta are seen in cases with placenta Previa<sup>20</sup>. In the presence of both risk factors, previous caesarean section and placenta previa, obstetricians must have a high suspicion for placenta accreta<sup>21</sup>.

Due to the rise in the rate of cesarean section more cases of placenta previa and abnormally adherent placenta are coming up. Chaudhary et al<sup>22</sup> reported that the placenta accreta was seen in 27.27% of patients having more than two C-section. Another observation is that the degree of abnormal adherence of placenta increases progressively with the number of cesarean sections. In another study also confirmed the same findings.

The available evidence points towards the fact that increasing caesarean section rate is leading to more cases of abnormal placentation. Efforts should be directed towards reducing the rate of primary caesarean section so that incidence of morbidly adherent placenta can be decreased. The rise in caesarean section rates is expected to lead to proportionate raise in the incidence of placenta previa, placenta accreta, and maternal death subsequently<sup>23</sup>.

In Pakistan, due to inadequate counseling, financial problems, absence of antenatal care at grass root level and availability of proper expertise many patients with these obstetric disorders usually end up with serious life-threatening hemorrhage. The staff providing services at small clinics fail to diagnose and anticipate this leading cause of maternal mortality<sup>20</sup>.

High index of suspicion is required for prevention of major obstetric emergencies, as well to help management of major hemorrhage resulting from placental issues. Considerable efforts should be put in to reduce caesarean section rate, to meet the international rate target as well as to reduce the rate of morbidly adherent placenta, so that it contribute towards reducing maternal deaths and morbidity<sup>24</sup>.

## CONCLUSION

14.3% women with morbidly adherent placenta had cesarean section in previous pregnancy. Among these women (69%) suffered from postpartum hemorrhage and (51%) underwent hysterectomy. These results indicate that morbidly adherent placenta can play havoc with reproductive career of females. It is very important to decide for C-section in the first place very wisely and in cases of those with previous one section vaginal birth after C section should be considered.

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