

INCIDENCE OF FETOMATERNAL OUTCOMES IN CASES WITH MORBIDLY ADHERENT PLACENTA

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Abstract: *The prospective study was conducted in tertiary hospitals' Department of Obstetrics and Gynaecology from January 2022 to June 2022 to assess the incidence of feto-maternal outcomes in cases with morbidly adherent placenta. The study was conducted on 155 women fulfilling the inclusion criteria. Demographic and medical data were recorded. The procedure was performed using a lower-segment approach, and complications were managed according to protocol. Results showed that of 155 women, post-partum hemorrhage occurred in 35.5%, massive blood loss in 66.5%, bladder injury in 14.2%, maternal ICU admission in 35.5%, maternal mortality in 9%, small for gestational age in 21.9% and NICU admission in 26.5%. Results showed that morbidly adherent placenta could cause life-threatening feto-maternal complications; placental disorders must be diagnosed and managed to reduce morbidity and mortality.*

Keywords: Placental Abnormalities, Feto-Maternal Outcomes, Cesarean Section, Maternal Mortality

Introduction

The increasing frequency of cesarean delivery has increased the incidence of the morbidly adherent placenta. The most common site of placental aberrance is an anterior lower uterus wall, particularly after a prior caesarean section (Alamo et al., 2018). There are three types of placental aberrances. In placental accreta, extravillous trophoblast directly attach to the myometrium; in the placenta, increta extra villous trophoblast enter the myometrium, and in the placenta, percreta trophoblasts enter serosa and adjacent organs. Procedures like uterine artery embolization, thermal ablation, submucous leiomyomas, and myomectomy may cause morbidly adherent placenta (Kingdom et al., 2020). Uterine scars caused by cesarean section, older maternal age, and multiparity also increase the risk of placental abnormalities (Davidson et al., 2022). A study showed that morbidly adherent placenta increases morbidity and likelihood of invasive procedures like hysterectomy, blood loss, and the need for blood transfusion with ≥ 10 units of fresh frozen plasma or ≥ 10 units of packed red blood cells (Main et al., 2020). Another study showed that morbidly adherent placenta is associated with small gestational age, post-

partum hemorrhage, hysterectomy, and neonatal and maternal ICU admission (Abbas et al., 2019). Another study showed that morbidly adherent placenta caused bladder injury in 11.2% of women, obstetric hysterectomy in 63.1%, ICU admission in 40.1%, need for blood transfusion in 85.2%, and maternal mortality in 17.4% of women (Memon et al., 2017). Local data are scarce on the impact of morbidly adherent placenta on fetomaternal outcomes, only one such study has been conducted, and it did not evaluate neonatal outcomes. Thus, this study aims to assess the incidence of fetomaternal outcomes in cases with morbidly adherent placentas.

Methodology

The prospective study was conducted in tertiary hospitals' Department of Obstetrics and Gynecology from January 2022 to June 2022. Women aged between 18 to 40 years, having singleton pregnancy, gestational age ≥ 36 weeks, parity 1-4, morbidly adherent placenta, and planned caesarean section were included in the study. Women with a history of uterine fibroids, endometriosis, endometrial, and cervical and uterine cancer were excluded. The study

was conducted on 155 women fulfilling the inclusion criteria. Informed consent of the participants was taken. The ethical board of the hospital approved the study. Demographic data were recorded, including maternal age, parity, and gestational age. The lower segment approach was used for the C-section. The uterus was incised using Pfannenstiel incisions, and an initial incision was expanded through a blunt technique. The procedure was performed under the supervision of an expert consultant.

Data was analyzed in SPSS version 22.0. Quantitative variables such as age, parity, and gestational age were presented as standard deviation and mean. Qualitative variables such as prior C-section, hysterectomy, NICU and maternal ICU admission, postpartum hemorrhage, blood transfusion, and small for gestational age were presented as frequency and percentage. The Chi square test was used for calculating the effect of the previous C-section, parity, age, and gestational age. P value ≤ 0.05 was considered statistically significant.

Results

The demographic data of the participants are summarized in Table I. Mean age of the participants was 31.66 ± 5.94 years. Of 155 women, 55 (35.5%) were aged between 18 to 30 years, and 100 (64.5%) were between 31 to 40 years. The mean parity was 2.86 ± 0.91 , and the mean gestational age was 38.12 ± 1.29 weeks (Table I). History of the Caesarean section was present in 56.8% of cases and hysterectomy in 22.6%.

Of 155 women, postpartum hemorrhage occurred in 35.5%, massive blood loss in 66.5%, bladder injury in 14.2%, maternal ICU admission in 35.5%, maternal mortality in 9%, small for gestational age in 21.9% and NICU admission in 26.5% (Table II).

Stratification showed that higher maternal age (31-40 years) was significantly associated with the incidence of hysterectomy (P=0.01) and risk of small for gestational age (P=0.014). Prior C-section was significantly associated with the risk of maternal ICU admission in a subsequent pregnancy (P=0.02). Moreover, there was a significant association between lesser gestational age and maternal mortality risk (P=0.003).

Table I: Demographic data of study participants

Variables	Mean±SD
Age (years)	31.66 ± 5.94
Gestational age(weeks)	38.12 ± 1.29
parity	2.86 ± 0.91

Table II: Feto maternal outcomes in cases with morbidly adherent placenta

Outcomes	Yes (n/%)	No (n / %)
History of caesarean section	88(56.8%)	67(43.2%)
Hysterectomy	35(22.6%)	120(77.4%)
PPH	55(35.5%)	100(64.5%)
Massive blood transfusion	103(66.5 %)	52(33.5%)
Bladder injury	22(14.2%)	133(85.8%)
Maternal ICU admission	55(35.5%)	100(64.5%)
Maternal mortality	14(9%)	141(91%)
Small for gestational age	34(21.9%)	121(78.1%)
NICU admission	41(26.5%)	114(73.5%)

Discussion

The morbidly adherent placenta is an increasingly common pregnancy complication. It is a major challenge in obstetrics because of the associated risk of postpartum hemorrhage, hysterectomy, ICU care, blood loss, bladder injury, infection, and death (Booker and Moroz, 2019; Wasim et al., 2020). In the current study, it was assessed feto-maternal outcomes in cases with morbidly adherent placenta; it was found that in such women frequency of caesarean section was 56.8%(n=88), hysterectomy was 22.6%(n=34), PPH was 35.5%(n=55), massive blood loss was 66.5%(n=103), bladder injury was 14.2%(n=22), maternal ICU admission 35.5%(n=55), maternal mortality 9%(n=14), small for gestational age was 21.9%(n=34) and NICU admission 26.5%(n=41). A previous study by Elbery et al. showed that among women with morbidly adherent placenta, 85% had obstetric hysterectomy 30% needed multiple blood transfusions, 50% had ICU admission, 15% had bladder injury, and 30% had maternal morbidity (Elbery et al., 2020). Another study by Panaiotova et al. reported that morbidly adherent placenta resulted in hysterectomy in 78% of women and massive blood loss in 65% (Panaiotova et al., 2019). A study conducted by Balan et al. reported that morbidly adherent placenta is associated with a 10% increased risk of maternal mortality and may lead to acute tubular necrosis, ureteric trauma, massive hemorrhage, and hysterectomy (Balan et al., 2021). Another study reported 30% perinatal mortality and 20% maternal mortality in women with morbidly adherent placenta (Nieto-Calvache et al., 2021). A local study reported that 63% of women with morbidly adherent placenta had obstetric hysterectomy, 85% needed blood transfusion, 40.1% were shifted to ICU, 11.2% had bladder injury, and 17.5% maternal mortality (MAMLUK et al.). A

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previous study showed an association between the caesarian section and morbidly adherent placenta (Fathy El-sayed et al., 2022). It was reported that there were a 10 times increased risk of morbidly adherent placenta after four more cesarean sections. Late diagnosis, lack of consultation, and antenatal care result in life-threatening complications in women with serious obstetric disorders (Maqsd et al., 2020). In Pakistan, general practitioners and midwives at small obstetric centers are not trained enough to diagnose and anticipate these serious complications. There is a need of thorough guidelines for evaluation of placental localization in pregnant women and screening and referral of women with placental abnormalities. The limitation of our study is that it included data from a single center, a larger study is recommended for detailed analysis of complications.

Conclusion

The results of this study showed that the most frequent outcomes of the morbidly adherent placenta are the need for massive blood transfusions followed by postpartum hemorrhage and NICU admission.

Conflict of interest

The authors declared absence of conflict of interest.

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