

Frequency of Morbidly Adherent Placenta in Pregnant Women with Previous Uterine Scar and its Associated Maternal Outcomes

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ABSTRACT

Aim: To determine the frequency of morbidly adherent placenta and its associated maternal outcomes.

Methods: The descriptive cross-sectional study was carried out on 180 pregnant women with age between 15 to 45 years, carrying singleton pregnancy, having previous uterine scar due to cesarean section. The study was conducted in CMH Hospital, Multan from January-2018 to OCT-2019. Maternal outcomes in-terms of intra and post-operative complications such as need for blood transfusion, bladder repair, emergency hysterectomy, ICU admission, surgical site infections, and mortality was main study outcome.

Results: Mean age of women was 31.28±3.58 years. MAP was diagnosed in 17(9.44%) women, out of which placenta increta was presented in 11 (6.1%) cases, placenta accreta vera in 4(2.2%) and percreta in 2(1.1%) cases. Mean gestational age in women in MAP was 34.62±2.78 weeks. Most common complication was bleeding requiring blood transfusion occurred in 76.5% cases, emergency hysterectomy was needed in 76.47% cases, bladder repair in 11.7% cases and 35.2% cases required admission in ICU. Mortality occurred in 2(11.8%) women with MAP.

Conclusion: Morbidly adherent placenta is a common presentation among patients with previous scar. Bleeding is the commonest complication in these patients, many of these patients require admission in ICU. These patients also have higher mortality rate.

Keywords: Uterine scar, morbidly adherent placenta, Maternal outcomes, mortality.

INTRODUCTION

Morbidly adherent placenta (MAP) is one of the massive hemorrhage conditions during pregnancy & delivery, which may cause morbidity to mortality to pregnant women. The MAP mortality incidence rate in Pakistan around 7% to 10% cases, and is the foremost reason behind the maternal death in Pakistan.¹ Its frequency is 4 in every 10000 pregnant women in the USA, and one in every 800 labor deliveries in UK.² Nowadays, MAP turned into common occurrence due to the high percentage of caesarian section deliveries. According to gynecology anatomy, the placenta adherent to endometrium's decidua basalis layer.³ In abnormal patients, the placenta is attached to the defective layer of deciduae basalis or myometrium. Pathologically, this abnormal placentation categorized into three types, depending on the degree of placental tissue (chorionic villi) invasion into the uterine wall or neighboring area. 1. Placenta accreta- villi morbidly attach to superficial myometrium fully or partially (75%) 2. Placenta increta- villi penetration occurs into the myometrium (17%) and 3. Placenta percreta- villi penetrating full serosa of the uterus and addition into the neighboring organs (7%).

It's hard to detect MAP abnormality before delivery,⁴ but the present development of technology like MRI and transvaginal sonography allows gynecologists and anesthesiologists to recognize MAP and allows to do the pre-delivery planning⁵. The color Doppler Ultrasound has 80% sensitivity and 95% specificity for early identification of

MAP.⁶ Such pre-planned cases are safe, decreases blood products transfusion along with low morbidity and mortality rate⁷.

MAP is a major obstetric challenge and a leading cause of gravid hysterectomy. In present study, we determined the frequency of morbidly adherent placenta and its maternal outcomes.

METHODOLOGY

The descriptive cross-sectional study was carried out in patients undergoing labor delivery at CMH hospital, Multan from January-2018 to OCT-2019. An ethical approval from the review committee of the institute was obtained before initiation of the study. In this study, 180 pregnant women with age between 15 to 45 years, carrying singleton pregnancy, having previous uterine scar due to cesarean section were included. Patients having any renal disorder, acute appendicitis, pancreatitis, cystitis, urethritis cholecystitis and ruptured ovarian cyst were excluded.

The original calculated sample size was 87 pregnant women, calculated by taking a confidence level of 95% and an estimated proportion of 6%, the desired precision of estimate 5%⁸. Written informed consent was acquired from each individual patient.

Maternal outcomes in-terms of intra and post-operative complications such as need for blood transfusion, bladder repair, emergency hysterectomy, ICU admission, surgical site infections, and mortality was main study outcome.

The present study statistical analysis done by using SPSS version 23.0. quantitative variables and qualitative variables are measured as mean± standard deviation and percentage/ frequency accordingly.

RESULTS

Mean age of women was 31.28±3.58 years. Regarding age distribution majority of women (96 (53.3%)) were of 30-35 years age group. Mean gestational age at the time of delivery was 37.42±3.61 weeks. Regarding number of previous deliveries, majority of women 158 (87.7%), were have 1 previous C-section, 19 (10.5%) 2 and only 03 (1.6%) 3 C-sections. Associated placenta previa was presented in 79 (43.8%) women. MAP was diagnosed in 17 (9.44%) women, out of which placenta increta was presented in 11 (6.1%) cases, placenta accreta vera in 4 (2.2%) and percereta in 2(1.1%) cases (Table 1).

Mean gestational age in women in MAP was 34.62±2.78 weeks. Most common complication was bleeding requiring blood transfusion that occurred in 76.5% cases of MAP, emergency hysterectomy was needed in 76.47% cases, bladder repair was done in 11.7% cases and 35.2% cases required admission in ICU and mortality occurred in 2 (11.8%) women with MAP (Table 2).

Table 1: Baseline variables of study patients.

| | |
|--------------------------------------|-------------------|
| Mean Age (years) | 31.28±3.58 |
| 23-29 Years | 58 (32.2%) |
| 30-35 Years | 96 (53.3%) |
| 36-40 Years | 26 (14.4%) |
| Gestational Age at Delivery | 37.42±3.61 |
| Previous Number of C-sections | |
| 1 | 158 (87.7%) |
| 2 | 19 (10.5%) |
| ≥3 | 03 (1.6%) |
| Placenta Previa | 79 (43.8%) |
| Morbid Adherent Placenta | 17 (9.44%) |
| Increta | 11 (6.1%) |
| Accreta Vera | 4 (2.2%) |
| Percereta | 2 (1.1%) |

Table 2: Maternal outcomes in pts of morbid adherent placenta.

| | |
|-------------------------------------|-------------|
| Gestational Age at delivery (Weeks) | 34.62±2.78 |
| Need for Blood Transfusion | 13 (76.5%) |
| Bladder repair | 2 (11.7%) |
| Need for Emergency Hysterectomy | 13 (76.47%) |
| ICU admissions | 06 (35.2%) |
| Surgical Site Infections. | 1 (5.8%) |
| Mortality | 2 (11.8%) |

DISCUSSION

MAP is of the few lethal complications during pregnancy⁹. In MAP the placenta originates directly from the myometrium, in few cases it originates from the deeper uterine wall or adjacent organs. It has three sub-categories such as placenta increta, placenta percreta and Accreta Vera depending upon the site of origin. Among surrounding organs, bladder is the commonest involved organ, its involvement has found to be associated with high rate of morbidity and mortality (up-to 10% cases)¹⁰.

Previous studies have shown that MAP is usually detected in later pregnancy stages. It mostly occurs in

women with advanced age and having previous C-section history, the higher the number of C-section the higher is the risk of development of MAP^{11,12}. Moreover, as high as 80% women who develop MAP have associated placenta previa^{13,14}.

The MAP is identified during the third stage of labor or during cesarean section and has the opposite effect of thrombus development.¹⁵ The study by Sulenaruk et al. Found MAP in 21.2% of cases of hysterectomy specimens.¹⁶

In present study, we determined the frequency and maternal outcomes of MAP in pregnant women presenting with previous uterine scar. We found MAP in 9.44% cases. A study by Fakhar-Un-Nissa et al. reported MAP in 9.76% cases.¹⁷ Chaudhari et al. conducted a study on frequency of MAP in all pregnant women regardless of presenting history with and without scar reported MAP in 1.32/1000 pregnancies. However, they did not reported the frequency of MAP in patients having previous scar¹².

The management of patients with MAP requires a multidisciplinary team approach to prevent associated complications in these patients. If diagnosed early, proper pre-operative management can help to reduce complications¹⁸. The ideal time of delivery in these patients is within 34 to 35 weeks¹⁹. so the ultimate management in these patients is pre-term C-section by leaving the placenta in situ, because attempts to remove placenta can cause severe hemorrhage. In some cases, especially low lying placenta a transfundal incision is given for delivery¹².

In present study, most common complication was bleeding requiring blood transfusion that occurred in 76.5% cases of MAP, emergency hysterectomy was needed in 76.47% cases, bladder repair was done in 11.7% cases and 35.2% cases required admission in ICU.

A study by Memon et al. on maternal complications of MAP, reported blood transfusion requirement in 85.1% cases, hysterectomy in 63.1%, bladder repair in 11.3%, ICU admission in 40.5% and mortality in 17.4% patients.

While a study by Bailit et al. reported ICU admission in 31.0% cases, hysterectomy in 69.6% patients, and major blood lose in 26.0% patients.²⁰ Another study by Singh et al. on maternal outcomes of MAP reported admission in CCU in 38.9% cases and mortality in 23.8% patients of MAP²¹.

MAP is associated with high morbidity and mortality. So there is need of early screening especially in third decade of life. Proper pre-operative planning for delivery and management of intra and post-operative complications can help to improve outcomes and reduce complications in these patients.

CONCLUSION

Morbidly adherent placenta is a common presentation among patients with previous scar. Bleeding is the commonest complication in these patients, many of these patients require admission in ICU. These patients also have higher mortality rate.

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