

## Reducing Mortality and Morbidity in Morbidly Adherent Placenta

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### ABSTRACT

**Objectives:** The goal of this study is to explore methods for minimizing mortality and morbidity in the context of a morbidly adherent placenta.

**Study Design:** A descriptive observational case series.

**Place and Duration:** This is two-year study was held in the Obstetrics and Gynecology department of Khyber Teaching Hospital Peshawar from January 2018 to January 2020.

**Methods:** There are 36 females included in this study who have morbidly adherent placenta. The surgical procedure, antenatal diagnosis, quantity of blood loss, organ damage, blood transfusion, hospitalization, ICU and postnatal problems are all evaluated in these patients. SPSS version 21 was used to analyze and evaluate the data.

**Results:** Ultrasound and colour Doppler were used to diagnose 30 patients antenatally. Six of them were revealed during surgery, nine of them had a severe hemorrhage, and five to ten units of blood were transfused. Three of the undiagnosed patients suffered a bladder injury, ten were admitted to the hospital, and two required ventilator support. In 26 patients, hysterectomy was performed, while four patients had conservative surgery. There were no cases of maternal or newborn death.

**Conclusion:** Mortality and Morbidity may be reduced by increasing the index of suspicion, performing prenatal diagnostics, anticipating large volume blood transfusions, and performing planned hysterectomy with a fundal classical incision without disturbing the placenta. It is important to be aware of the possibility of a morbidly adherent placenta, just as it is important to be aware of other obstetric crises.

**Keywords:** previous C-section Scar, morbidity, mortality, hysterectomy, morbidly adherent placenta

### INTRODUCTION

Morbidly adherent placenta (MAP) is a condition, which was formerly supposed to be rare, is becoming increasingly frequent in current obstetrical practice, and obstetricians should be conscious of this<sup>1-2</sup>. Large-scale hemorrhage in obstetrics is the most serious clinical issue since it is a possibly life-threatening condition that has a high risk of mortality and morbidity, with up to 11% of females dying as a result<sup>3</sup>. Previously considered to be very uncommon, placenta accreta has grown tenfold in the last 50 years, with an incidence of one per 2,500 to one per 110 deliveries<sup>4-5</sup>. A key contributing factor is the rising caesarean section rate and the short period between caesarean procedure and conception<sup>6</sup>.

The reason is assumed to be injury to the decidua basalis, which facilitates invasion of placenta into the myometrium. The decidua's barrier function is compromised, and the invasive trophoblast may infiltrate the myometrium to various depths (placenta accrete-increta), perhaps breaking the uterine serosa (placenta percreta), and invading adjacent organs. Placental adhesion is classified as focal (just a segment of the cotyledon is involved), partial (>1 cotyledon is involved), or total (all cotyledons are involved) (when the whole placenta is engaged). High maternal age, previous caesarian section, prior myomectomy, Asherman syndrome and previa are all risk factors<sup>7-8</sup>.

The diagnosis of a morbidly adherent placenta requires a high level of suspicion, particularly in the case of a placenta previa with or without previous caesarean surgery<sup>9</sup>. While MAP may be asymptomatic throughout pregnancy, it may induce antepartum hemorrhage as well as stomach discomfort and acute abdomen. Intrapartum symptoms include retained placenta, post-partum hemorrhage, & uterine rupture<sup>10</sup>. The most difficult problem in obstetrics is morbid adherent placentas. The most dangerous phase for the mother is when the placenta separates, resulting in severe bleeding, disseminated intravascular coagulation, large blood transfusion, and death. Early transfer to a tertiary care centre with multidisciplinary proficiency in anesthesiology, prenatal diagnosis, diagnostic imaging, blood and hematology services are essential for effective therapy of this potentially lethal condition in pregnant women. There is a need for accurate antenatal diagnosis

since such a disease, if discovered unexpectedly at birth, would almost always result in severe morbidity and death.

Color and ultrasound Doppler has revolutionized antenatal diagnosis and management of these situations, resulting in lower morbidity. In terms of sensitivity and specificity, colour Doppler has a range of 84% to 100% and 92% to 98%, respectively, whereas grey scale ultrasound has a range of 94% and 79%. Early prenatal diagnosis and planned surgery in a well-equipped centre with multidisciplinary skills are required for successful care of adherent placentas. Through this research, we want to discuss the ways for reducing morbidity in adherent placentas, and prenatal diagnosis is a key component.

### MATERIALS AND METHODS

This is two-year observational study was held in the Obstetrics and Gynecology department of Khyber Teaching Hospital Peshawar from January 2018 to January 2020. A total of 36 individuals with adherent placenta were included in the study. All patients with placenta previa and a prior caesarean birth were checked with ultrasound in the prenatal period, and if diagnosed as adherent placenta, it was verified with a colour Doppler scan, and afterwards confirmed with surgery and histology (hysterectomy specimen). After obtaining informed permission for hysterectomy, these patients were scheduled for radicle surgery. Before surgery, a urologist and an experienced anesthetist were present, and an ICU was set up. 4-5 units of PCVs were prepared, and the lab was notified that new frozen plasma and platelets could be required. SPSS version 21 was used to analyze and evaluate the data.

### RESULTS

The research comprised a total of 36 individuals with adherent placentas. In the prenatal period, ultrasonography and Doppler scan were used to diagnose 30 individuals. These instances were subsequently validated by a uterine histopathology specimen. On histopathology, 26 of the 30 adherent placentas were accreta, 3 percreta, and 1 increta.

Table 1 shows the mother's parity and previous caesarean section. In our case series, the most significant risk factor was previous caesarean section and placenta previa. One example of

adherent fundal placenta was discovered. Sixteen patients had a prior one scar of C-section, eight had a previous two scar, two had a previous three scar, and two had a previous four caesarean sections scar. Four individuals with no prenatal diagnosis presented as un-booked cases, two with antepartum hemorrhage and the other two with acute abdomen.

Table 1: shows the demographics of women with morbid adherent placentas (n=36).

Parity median (range)	3 (1-5)
Mean age in years	28.5
Previous cesarean section (mean)	3
Mean gestational age in weeks	37
Diagnosed in antenatal period	30
Placenta Previa (percent)	25
Undiagnosed in antenatal period	4

In planned surgery, the abdomen was opened by a sub-umbilical midline incision, the lower uterine segment was appreciated for improved vascularity and thinning, and the fetus was delivered via a midline classical incision on the fundus of the uterus. The placenta was not touched or separated in any way and was decided to proceed for hysterectomy. The bladder was meticulously dissected. During the dissection of one placenta percreta, bladder was injured, and the patient had a massive hemorrhage. She had a blood transfusion of 6 units and four FFPs. A urologist repaired the bladder, and a complete hysterectomy was performed. Due to technical difficulties, subtotal hysterectomy was performed in ten patients. Except for percreta, no patient of scheduled hysterectomy required more than four blood transfusions. Blood loss was estimated to be between 2 and 2.5 liters. Two of them was admitted to the ICU, while the other sustained a bladder damage. A total of 5-8 days were spent in the hospital. There was no evidence of secondary bleeding or vault infection in any of the cases. (See Table 2)

Table 2: Outcome measures

	Antenatal diagnosed cases	Undiagnosed cases
	30 Planned Hysterectomy	Hysterectomy / Conservative 6
Blood loss	2-5 litres	6-9 litres
ICU admission	2	4
Blood transfusions	5 pints average	7 pints average
Ventilatory support	Nil	1
Disseminated intravascular coagulation	2	3
Hospital stays	6 days	10 days
Post operative complications	1	2

A Pfannenstiel incision was made together with a transverse incision in the lower uterine segment, cutting through the placenta, to open the abdomen and deliver the baby in four cases that had not been diagnosed during the prenatal period and had come in an emergency situation. Two females have DIC after losing 6-8 litres of blood. During the hysterectomy, 8-10 units of blood, 4 FFPs, and one mega platelet transfusion were transfused. Two of the women who had a fundal placenta developed focal accreta, which required six blood transfusions and conservative surgery to guarantee future fertility. To adequately tamponade balloons, three large foleys catheters and a continuous oxytocin infusion for 24 hours were employed. There was no active bleeding once the tamponade was removed. All these 4 patients were admitted to the ICU, with one requiring ventilator support. One suffered a bladder injury, while the other had a vault hematoma that was conservatively handled. The hospitalization lasted 10-12 days.

## DISCUSSION

This paper details our experience with methods for lowering morbidity and death in instances with morbidly adherent placentas<sup>8-10</sup>. The referral to a tertiary care centre with

multidisciplinary competence, Antenatal diagnosis and intensive care units and blood transfusion capabilities are required for successful management of this potentially fatal condition. In the UK, a consultant obstetrician should perform all caesarean sections in women with placenta Previa and previous section, involving multidisciplinary personnel such as hematologists, urologists, interventional radiologists, vascular surgeons, and anesthesiologists in a tertiary center with high-volume blood transfusion and invasive monitoring<sup>11-12</sup>. The availability of platelets, packed cells, cryoprecipitate, fresh frozen plasma, cell saver and whole blood should be provided whenever feasible in the preparation for and treatment of major bleeding<sup>13-14</sup>. To improve the patient's prognosis, it's critical to recognize the need of early blood and blood product replacement to avert disseminated intravascular coagulation<sup>15</sup>. Our experience reveals that in placenta previas with or without caesarean sections, a high index of suspicion is necessary, since we identified this relationship in 93 percent of our patients with adherent placenta<sup>16</sup>. According to the literature, accurate prenatal diagnosis is the most important aspect in achieving success. Women with adherent placentas should be advised about the benefits and drawbacks of different surgical procedures after being diagnosed<sup>17-18</sup>.

In our case series, early caesarean hysterectomy has reduced mortality and morbidity to less than 2%. Preferably, we deliver the foetus by high transverse incision avoiding placental incision: the placenta may then be removed or left linked to the uterus and removed after the hysterectomy. This approach reduces blood loss and morbidity and has been endorsed by a number of writers in the literature, Yap et colleagues found in retrospective research that removing the placenta before hysterectomy enhanced mother morbidity<sup>19-20</sup>. A recent study also cautioned against attempting to remove the placenta before undergoing hysterectomy<sup>21</sup>.

Although a hysterectomy may save a woman's life if performed in a timely manner, the loss of fertility that results is devastating if the patient is young, and the morbidity is substantial if the procedure is performed percreta. As a result, a conservative strategy has been suggested. Conservative treatment comprises leaving the placenta in place, which may be supplemented by bilateral uterine artery embolisation, parenteral methotrexate, or both. An interventional radiologist may insert balloon occlusive devices in both internal iliac arteries before surgery<sup>22-23</sup>. As observed by Edwin<sup>16</sup>, the placenta left in situ shrinks on the fifth postoperative day and is followed up by ultrasonography Doppler, with no placental tissue remaining at 20 weeks. Radical surgery is no longer the only option for treating placenta intcreta and accreta. Conservative care is now reliable and an acceptable alternative<sup>24</sup>. Controlling postpartum hemorrhage using uterine artery embolization before birth or in the operating room is a success<sup>25</sup>. Similarly, as we saw in one of our cases, balloon tamponade may be used effectively to minimize bleeding from the placental bed.

## CONCLUSION

Morbidity and mortality in morbidly adherent placentas can be reduced by increasing, early diagnosis, planned surgical intervention in a multidisciplinary centre, invasive monitoring, anticipating high-volume blood transfusions, and delivery via classical or fundal incision without manipulating the placenta. Individuals must choose between hysterectomy and conservative therapy. Preparation is key in obstetric emergencies. Like other obstetric problems, adherent placentas should be avoided.

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