



## Case Report

# Placenta accreta antenatal diagnosis and management with multidisciplinary approach: a case report

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### ABSTRACT

Placenta accreta is a rare gestational complication and is often related with mortality and morbidity of the expecting female. Predispose factors are maternal age, multiple pregnancies, prior history of cesarean section and uterine scar. Usually it is evident in the third half of the gestation and is often linked with adverse maternal and fetal outcomes. To avoid such circumstances an early detection and a multidisciplinary approach are often significant. We report a case of thirty three year old Pakistani women with gravida 4, para 3 and was admitted to clinic for second degree antepartum. Ultrasound scans at twenty-eight weeks of gestation showed the low lying placenta whereas a transvaginal ultrasound confirmed the presence of placenta accrete. History revealed that she had previous three cesarean section and laboratory examination revealed that she had low hemoglobin and had  $\beta$  thalassemia trait. During delivery iliac artery catheterization and ureteric stenting were also conducted. Postoperative observation showed that she had no postnatal complications, after which her stenting was removed and then was discharged. The approach of using these combination of techniques in a multidisciplinary setting ensued in reduced blood loss and in the end reduced the risk of mortality and morbidity among the expecting females.

**Key words:** Cesarean hysterectomy; Placentaccreta; Multidisciplinary approach; Ureteric stenting

### INTRODUCTION

Placenta accreta is a condition derived to an abnormal implantation of placenta into the myometrium<sup>1</sup>. Further, abnormal placental adherence classification depend upon the degree of invasion between the placenta and the layers of myometrium<sup>2</sup>. According to the degree of invasion it is divided into three grades. First is placenta accrete which is placental villi adhere to superficial myometrium and its accounts for 75% of the cases. Second is placenta increta which is placental villi adhere to the body of the myometrium and its accounts for 17% of all the cases and the last one is placenta percreta which is placental villi penetrate the full thickness of the myometrium and its accounts for 5-7% of all the cases<sup>3</sup>.

Predisposing factors for the development of placenta accreta include early cesarean delivery, pregnancy termination, intra uterine surgery, multifetal gestation, increasing parity,

increasing rates of cesarean section, uterine scar, uterine irradiation, uterine leiomyomata, endometrial ablation, Asherman syndrome, smoking and hypertensive disorders of pregnancy<sup>4</sup>, whereas the independent risk factor for placenta accreta is placenta previa<sup>5</sup>.

Due to the unusual adherence into the myometrium wall, placenta accreta is often linked with increased risk of substantial blood loss at the time of vaginal delivery<sup>6</sup>. Therefore there is an urgent need of transfused blood products and sometimes for the control of life-threatening hemorrhage a hysterectomy is often done<sup>7</sup>. However the case we present here is the case of placenta accreta diagnosed by ultrasound scan images, in which we accomplished conservative management of postpartum hemorrhage.

## CASE PRESENTATION

A 34 year old women (gravida 4, para 3) was referred to our hospital due to 2° antepartum hemorrhage without abdominal pain. Abnormal placentation was revealed by a routine ultrasound done at 28 weeks of her gestation. Further ultrasound examination of the vagina confirmed the presences of placenta accrete (figure 1) and reveled a viable fetus with appropriate biometrical factors and normal amniotic fluid. At that stage she was in complete follow up and got admitted to the hospital.

On admission her BMI (body max index): 33.4 kg/m<sup>2</sup> and blood pressure was 121/80 mmHg. Family history of the patient revealed that her sister suffered from  $\beta$  thalassemia major so for this purpose patient blood test including ferritin level were performed. Laboratory examination include hemoglobin level (9.3g/dL) hematocrit level (28.6%) and fasting blood glucose level (11.5 mmol/L) indicated that the patient was anemic and suffered from gestational diabetes. Surgical history of the patient revealed that she had prior 3 cesarean section as showed in Table 1. Patient operation was planned at 37 week of gestation. For this purpose she and her family was made aware of all possible obstetric complications.



**Figure 1: Ultra Sonographic Diagnosis of Placenta Accreta**

**Table 1: Maternal History and Surgery's Performed**

Delivery year	Maternal age	Mode of delivery	Indication	Baby gender	Baby weight (kg)
2008	21	EMLSCS	Acute fetal distress	Girl	3.9
2010	23	EMLSCS	Acute fetal distress, oligohydramnios, Fetal Macrosomia	Boy	4.2
2015	27	EMLSCS	Previous two scars	Girl	3.8

EMLSCS: Emergency Low Section Caesarian Section

Preoperatively, bilateral ureteric stenting was performed. As the patient hemodynamic state was stable, local anesthesia via subarachnoid block was selected as the modality for anesthetic management. The patient was medicated with 30 mL of citric acid/sodium citrate for aspiration prophylaxis 15 minutes before the procedure. Four units of type and cross matched blood were transported along with the patient to operating room. In the operating room, patient arrived and usual monitoring was started. At that time the vital signs were as follow: blood pressure (140/80 mm Hg), pulse (101/min) and pulse oximetry reading was 100% with O<sub>2</sub> at 3L through a nasal cannula. She was then assisted into the sitting situation for the administration of a subarachnoid block and her back was prepped and draped in a sterile manner. A 25-gauge size spinal needle was administrated into L3-4 interspace and 1.4mL of 0.75% hyperbaric bupivacaine was ran into the intrathecal space along with Fentanyl (20  $\mu$ g) plus morphine (0.1 mg). Before the introduction of local anesthesia the patient also received a 1000 mL bolus of crystalloid intravenous infusion. Hypotension occurred due to anesthesia was then treated with ephedrine 10mg and phenylephrine 40  $\mu$ g in 2bolus doses respectively with an interval of 7 minutes.

The new born baby boy was delivered without any difficulty with weight 3005g and Apgar score 10. Immediately, an infusion of oxytocin (20 U/L) was administered. Up to this point the total estimated blood loss was 700 mL. Later delivery of placenta accrete was undertaken. Complete removal of the placenta, in fragmented segments was successfully achieved in 8 minutes after the delivery. Estimated blood loss during the delivery of placenta was 1400 mL, whereas the total estimated blood loss was 2100mL as the patient was anemic with hemoglobin level 7.9 g/dL which was then communicated to the surgical team. The remaining time was then devoted for controlling uterine bleeding and performing abdominal closure. As the expert team worked to achieved hemostasis, a 2L of fluid containing oxytocin (20 U/L) was administrated. At that stage the patient returned into a hypotensive state, however during that period patient remained intent and oriented but started to exhibit anxiety and agitation. As the time proceed the patient started feeling sensation of abdominal pressure and requested other medication to assist intolerance of the procedure. After an interval of 10 minutes, fentanyl 125 $\mu$ g, followed by morphine 4 mg and midazolam 2 mg were administered intravenously. The patient requested additional pain medication after 15 minutes of the intimal fentanyl dose. After 5 minute interval a 2<sup>nd</sup> dose of

fentanyl 125 µg, morphine 6mg and midazolam 2 mg were given. Due to the administration of these drugs the patient level of consciousness altered.

Eventually, to maintain the hemostasis a bilateral uterine artery ligation was done along with the placement of a Bakri balloon. Bakri balloon is a kind of intrauterine balloon that can be placed to tamponade the uterine vessels. After the placement of the Bakri balloon hemostasis was successfully achieved. Once the hemostasis was secured the abdomen was sealed. The estimated blood loss from the first time of placenta removal was 700 mL, whereas the total estimated blood loss of the surgery was 2100 mL. A total of 4500 mL of crystalloid infusion was used with a urine output equaled to 250 mL.

Patient was admitted into the ICU (intensive care unit) for a day. Monitored closely, patient did not developed any postoperative complications, so the urologist and radiologist planned for the removal of stent. Once the bilateral iliac stent was removed successfully the patient was shifted in the general ward. After a week of postoperative monitoring the patient was healthy and was discharged from the hospital.

## DISCUSSION

The authors described the case of a pregnant women, having a rare obstetric complication known as placenta accreta along with three prior caesarian scars that occurred due to pervious caesarian surgery. Patient developed gestational diabetes and also had  $\beta$  thalassemic trait. This complicated pregnancy surgery was done and iliac artery catheterization with bilateral ureteric stenting. The unique combination of techniques, like iliac artery catheterization helps in reduction of blood loss and the ureteric stenting helps in the identification of scars which in the end reduces the chances of mortality and morbidity. Whereas cesarean hysterectomy remains the most common procedure of choice for the management of placenta accrete. Hence by the use of combination of different techniques and skills and with the help of multiple disciplinary teams, a successful and promising outcomes will be always granted.

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