

CASE REPORT

Successful Multimodality Life-saving Management of Placenta Percreta with Hemoperitoneum in Shock

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ABSTRACT

Introduction: Placenta percreta is rare but may present with life-threatening emergencies.

Case report: We present a near-miss case with a placenta percreta presenting with hemoperitoneum and shock and describe how multidisciplinary multimodality management was used to save the lady in a tertiary care center of a low-resource setting. Peripartum hysterectomy with bilateral internal iliac ligation could not completely control the oozing. The general condition of the patient was poor with acidosis, coagulopathy, and hypothermia. Pelvic packing followed by embolization was done along with intensive care to treat metabolic derangements. It helped salvage the patient who later underwent a relaparotomy for pack removal.

Conclusion and clinical significance: Role of individualized multimodality multidisciplinary management and intensive care is emphasized.

Keywords: Anesthesia, Hemoperitoneum, Obstetric, Placenta percreta.

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INTRODUCTION

Placenta percreta is a morbidly adherent placenta that can lead to torrential hemorrhage and maternal mortality. We present an interesting near-miss patient who presented in circulatory shock in a low-resource setting. The case

was a challenge to the surgeon, anesthetist, and the radiologist who successfully managed the woman with multimodality therapy.

CASE REPORT

A 23-year-old woman was referred to our tertiary care hospital at 30 weeks gestation in shock with hemoperitoneum. She had previous two cesarean sections and her index pregnancy was irregularly supervised. Though she had been diagnosed placenta previa during the 2nd trimester ultrasound, she did not seek medical care thereafter until she experienced pain abdomen and uneasiness. She visited a health care facility where she was resuscitated and referred to our institute.

At presentation, she was extremely pale and in shock. Resuscitative measures were initiated. An ultrasound showed an intrauterine, single, live fetus with bradycardia, major degree placenta previa most likely placenta percreta and massive hemoperitoneum. She was immediately shifted for surgery. The gasping patient was intubated and laparotomy proceeded. Intraoperatively, she received massive blood transfusion as per protocol. Estimated blood loss was more than 3 L of blood and 900 gm clots, which were drained from the peritoneal cavity. Lower uterine segment of the uterus showed a 3×3 cm rent with a bleeding placenta protruding through the same (Fig. 1). A 1.3 kg baby was delivered by a classical cesarean incision but it could not be resuscitated. The placenta was left undisturbed and decision for emergency peripartum hysterectomy was taken. Bladder was densely adherent to the uterus. With the assistance of an urologist, the uterus was separated from the bladder and the resulting muscular breach of the bladder was repaired using 3-0 Vicryl. Profuse bleeding continued despite uterine ligation and so bilateral internal iliac ligation was done. A total hysterectomy was performed. The bladder base and the left vaginal angle continued to ooze despite taking multiple hemostatic sutures.

Despite aggressive resuscitative measures, patient developed dilutional coagulopathy with hypothermia and acidosis. The patient was transfused 15 units of packed red blood cells, platelets, and fresh frozen plasma in a 1:1:1 ratio, apart from crystalloids. Tranexamic acid 1 gm was also given to help stop the bleeding. Acidosis was corrected as seen in sequential blood gases with high flow

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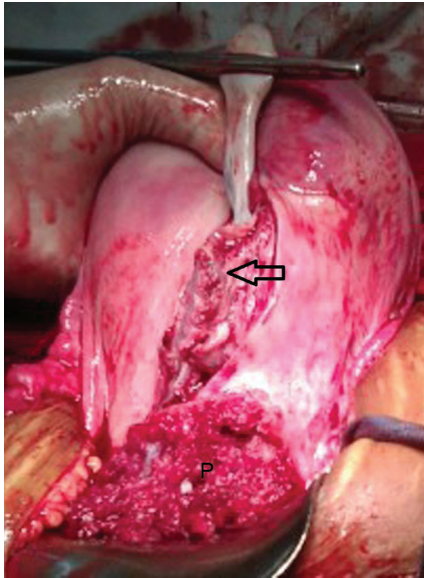


Fig. 1: The uterus after performing classical cesarean section (incision shown by arrow) with perforated placenta (P) in the lower uterine segment

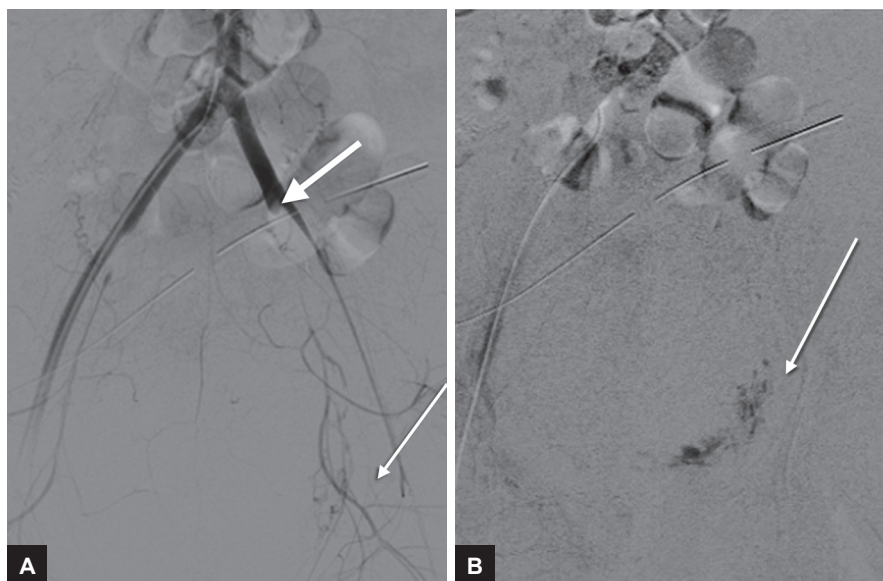
oxygen, bicarbonate correction, and blood transfusion. Despite the resuscitation, at a heart rate of 140 per minute and blood pressure of 65/30 mm Hg, she was started on inotropic support. Notwithstanding all the interventions, at abdominal closure, the patient had a hematocrit of 17, international normalized ratio 3.4, and prothrombin index 27%. The patient's temperature fell to 33.4°C and she was warmed using air blower. She also received potassium correction and calcium supplementation.

As dilutional intravascular coagulopathy set in, small venous oozing could not be controlled. While plasma transfusions continued, the pelvis was packed with sterile sponges to tamponade the bleeding sites and

abdomen was closed after putting in a drain in the pouch of Douglas. The patient was planned for intensive care and later re-laparotomy for pack removal. However, the drain output immediately postsurgery was 800 mL of frank blood. In a frantic effort to stop the hemorrhage, the patient was taken up for embolization. There was blush seen in the pelvic area with feeding sacral and lumbar branches arising from the aorta that were embolized with gel foam (Figs 2A and B). She then received intensive care unit care where she was ventilated and stabilized. A relaparotomy was done 48 hours postoperatively to remove the intra-abdominal packs. She was extubated 5 days postsurgery. Physiotherapy, mobilization, and dietary supplementation helped her recover and she was discharged in satisfactory condition on day 14. The histopathology report of the specimen confirmed the findings of placenta percreta.

DISCUSSION

The incidence of pregnancies with morbidly adherent placenta is increasing these days, secondary to increasing cesarean section rates.^{1,2} Placenta percreta is rare but can result in life-threatening obstetrical hemorrhage and even spontaneous rupture of the uterus.^{3,4} Our case presented in the 3rd trimester with spontaneous uterine rupture that necessitated immediate resuscitation and surgery. Despite the challenging herculean surgery, i.e., peripartum hysterectomy and the ligation of bilateral internal iliacs, the patient could not have been saved but for the embolization of aberrant feeding vessels and simultaneous correction of coagulopathy and metabolic derangements. This case highlights the use of one or more



Figs 2A and B: Distal aorta angiogram revealing reformation of the left internal iliac branches (arrow in 2A) through lumbar arteries with active contrast blush (arrow in 2B) seen in relation to left uterine artery. Ligated stump of left internal iliac artery (thick arrow in 2A) is also seen

important interventions that can prevent mortality in such life-threatening emergencies.

It needs to be emphasized that morbidly adherent placenta can cause shock due to internal hemorrhage even in the absence of external bleeding. In the face of hemorrhaging patient who is already compromised at arrival, surgical and anesthetist management are both challenging. Senior obstetrician and anesthetists should be immediately available. In our patient too, the woman's general condition was poor despite the immediate and exhaustive ongoing resuscitative measures, both peri and intraoperatively. The ominous triad of acidosis, coagulopathy, and hypothermia made it increasingly difficult to salvage the patient through surgery. Intensive care to correct the metabolic derangements proved vital to improve survival.

Pelvic packing, as in our case, offers an option for control of hemorrhage for safe transport of pelvic vessel embolization in patients who develop consumptive coagulopathy.⁵⁻⁹ Packs should be retained for at least a day to allow for patient stabilization and removed within 3 days to avoid infection.⁵ Packing should be complemented with wide spectrum antibiotics to avoid infection. Embolization has been described for management and prevention of postpartum hemorrhage in cases of adherent placenta.¹⁰⁻¹² However, preoperative placement of catheters is not an option in some cases, as in ours. It also needs to be emphasized that the blood supply of the pelvis is complex and varied.¹³ Though the internal iliac embolization does usually stop the hemorrhage, other feeding vessels may be present in some patients. In our case, ligation of the major vessel feeder, i.e., internal iliac ligation was done during surgery. Correction of coagulopathy and embolization of the aberrant feeders from the aorta finally stopped the oozing.

CONCLUSION AND CLINICAL SIGNIFICANCE

Thus, various modalities of treatment can be tailor-made and used in conjunction, especially in low-resource setups to salvage women with adherent placentae with torrential hemorrhage. The role of a dedicated multidisciplinary team of gynecologist, urologist, anesthetist,

interventional radiologist, intensive care personnel, and prompt availability of adequate blood products cannot be overemphasized.

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