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# Placenta Percreta; A Report On Surviving Death From The Bleeding Disaster !

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## Introduction

- Abnormal placentation is one of the important causes of obstetric hemorrhage.
- The term “morbidly adherent placenta” describes a spectrum of disorders including placenta accreta, increta and percreta with increasing degrees of invasion of the uterus by placenta respectively with/without invasion into adjacent structures.(1)
- The rapidity of blood loss in these cases can become rapidly overwhelming giving no time for an organised approach.
- There is necessity for multi disciplinary planning for the safe peri-partum management of the mother and baby.
- Here we describe the case of a multigravid woman with placenta previa percreta who bled massively leading to intraoperative cardiac arrest despite adequate preparation in terms of personnel, planning and available resources.
- We would like to further discuss the questions and dilemma that arose regarding anesthetic plan and perioperative management of this patient with emphasis on the lack of dedicated obstetric resuscitation guidelines in the face of acute massive hemorrhage, which is not very uncommon in this population even in a completely elective setting as above.

## Learning Objectives

1. Highlight the need for recommendations regarding anesthetic technique in patients with abnormal placentation
2. Contemplate the appropriateness of an epidural in patients prone to coagulopathy from hemorrhage
3. Emphasize that guidelines are needed to help direct transfusion during obstetrical hemorrhage and to underscore that point of care testing such as thromboelastogram (TEG) based blood component transfusion requires validation in obstetric hemorrhage

## Case Report

A 34 year old G6P5 diagnosed with placenta previa percreta (fig 1) in her 2nd trimester was reviewed by a multidisciplinary team. Baby delivery was planned at 34 weeks gestation by cesarean hysterectomy(CH) immediately preceded by bilateral ureteral stents for anticipated surgical complexity.

Patient received combined spinal and epidural (not activated) for the ureteric stenting with an aim to use the epidural for post-operative analgesia followed by general anesthesia and establishment of invasive lines and monitoring prior to start of CH. Soon after baby delivery, patient became hypotensive from severe hemorrhage. Massive transfusion protocol was instituted. After completion of hysterectomy, patient continued to bleed from multiple intraabdominal sites. While surgical hemostasis remained a challenge, patient developed PEA arrest. CPR was started with return of spontaneous circulation(ROSC) after chest compression for 2 minutes and 1mg of epinephrine. Following this, abdomen was packed with a decision to close secondarily after interventional radiology(IR) assisted intervention if necessary and hemodynamic stabilization. Intraoperatively, patient received a total of 29pRBCs, 22FFP, 4platelet & 3Cryo units with 21 L of crystalloids, 3.25 L of 5% albumin and 1.8L of cell saver with an estimated blood loss of 25L. Tranexamic acid and prothrombin complex concentrate was given. Thromboelastogram(TEG) and lab based coagulation profile was used intraoperatively to guide blood component transfusion. Serial blood gas analyses guided volume and electrolyte correction. In the ICU patient improved with no neurological insult or DIC. On postop day 1 IR found no active extravasations and surgical abdominal closure was performed. Epidural catheter was used for postoperative pain control and was removed on day 4. Patient was discharged on post-op day 10.



Fig 1: USG image of the patient showing placenta covering the cervical os with fetal head in vertex presentation.

## Discussion

Obstetric hemorrhage from abnormal placentation can be massive. MRI of the abdomen may show invasion but imaging has no predictive value for hemorrhage anticipation(2).

Preop IR guided procedures have been described and may decrease blood loss during CH. However, reported complications including catheter migration and arterial aneurysms leading to limb ischemia limit their use. Currently there is not enough evidence to make this a routine practice. (3).

There is a recent shift towards conservative management with an aim to preserve fertility and decreasing morbidity. In 2016, Konishi Y et al described conservatively managing a patient with placenta praevia where after baby delivery and clamping of placenta, uterine artery embolization and uterine closure was performed in a hybrid OR suite (4). However an Australian retrospective study reported over 40 % of women managed conservatively required emergent or elective hysterectomy and 42% experienced major morbidity (5).

Trauma transfusion guidelines i.e., 1:1:1 ratio is not as validated for obstetric hemorrhage(6). At present there are no transfusion guidelines for obstetric hemorrhage management. Blood and blood product transfusion was managed intraoperatively with the use of thromboelastogram (TEG) and lab based coagulation profile. Volume resuscitation and electrolyte correction was monitored with serial ABGs.

With no way to reliably predict which of these patients will bleed massively, it is reasonable to approach these patients with invasive lines and monitoring and a rapid infusor ready to go from the start with blood available. There may be a subset of patients with percreta that would benefit from the conservative approach with all its risks. Being able to predict severity of bleed may help risk stratify and guide in planning peripartum management of these patients.

Team work and strong communication cannot be over emphasized in any crisis management. Point of care testing and additional personnel support are indispensable and may add to cost.

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