

Placenta percreta: A case report on the role of rotational thromboelastometry (ROTEM) and intraoperative cell salvage in a caesarean hysterectomy

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ABSTRACT

Introduction: According to the World Health Organization (WHO), caesarean section (CS) rates have tripled from 7% in the year 1990 to 21% (1 in 5 of all childbirths) and is seen to increase further up to 29% in the year 2030 overriding the caesarean section acceptance rate worldwide. With the increase of CS, the prevalence and the incidence of placenta accreta spectrum (PAS) disorder continue to rise. Although caesarean hysterectomies (CH) are the mainstay of management for PAS, the main cause of morbidity and mortality is life-threatening haemorrhage associated with CH. Multiple strategies, such as planned preterm CH, refined operative techniques and prophylactic internal iliac artery balloon occlusion, have been implemented to minimise the bleeding intraoperatively in a CH. However, despite multiple strategies, roles of ROTEM and intraoperative cell salvage in a CH for PAS are minimally understood. **Case Description:** We present the case of a 38-year-old pregnant woman with a previous caesarean section diagnosed with placenta previa and suspected placenta percreta on magnetic resonance imaging (MRI) after presenting with two episodes of antepartum haemorrhage at 29 weeks. A preoperative, multidisciplinary team was designed, involving the anesthesiologist, interventional radiologist, transfusionist, paediatrics and the urology team. The caesarean section was performed at 34 weeks of gestation. Prophylactic internal iliac artery balloon occlusion was successfully performed, ROTEM was conducted, and intraoperatively cell-salvaged bloods were transfused to minimise the blood loss in the caesarean hysterectomy. **Discussion:** ROTEM and cell salvage are essential tools used in CH alongside balloon tamponade, which aims to reduce intraoperative blood loss and improve haemostatic resuscitation. ROTEM provides value on the coagulation status of patients and prevents unnecessary transfusion. Intraoperative cell salvage is an autologous blood transfusion which reduces the need for donor blood (allogenic) and improves oxygen delivery in patients. Although cost effectiveness and safety of these tools remain subjects of ongoing debate, current evidence supports their use as safe and beneficial, which significantly minimises blood loss for patients with placenta percreta undergoing CH.