Management of a parturient with severe sickle cell disease and placenta accreta

Introduction: Sickle cell disease increases maternal/fetal morbidity and mortality(1). We report the successful multidisciplinary management of a parturient with severe sickle cell disease and placenta accreta.

Case: A 31 year old G3P2 was transferred to our institution at 38 wks gestation. Past medical history included sickle cell disease (HbSS) with 5 previous hospital admissions due to pulmonary sickle crises. Her obstetric history included an emergency cesarean section (CS) for placental abruption (resulting in a stillbirth) and subsequent successful elective CS for twin delivery. During her current pregnancy an anterior placenta previa/accreta was diagnosed by MRI scan at 37 wks gestation.

Due to her planned CS with potential for major hemorrhage, she received a 3 unit red cell exchange transfusion the day before surgery (HbS level reduced from 66.3% to 29.0%, preoperative Hb 9.4 g/dL). Two 14G intravenous cannulae and arterial line were inserted preoperatively. A combined spinal epidural technique was attempted, however intrathecal puncture was unsuccessful. Epidural anesthesia was instigated prior to radiological insertion of a balloon catheter into the left iliac artery. Attempts to place a catheter on the right side failed, due to the tortuous nature of the iliac vessel. After discussion between anesthesiologists, obstetricians, radiologists and patient, it was decided to undertake the CS using general anesthesia, due to potential for major hemorrhage. Intraoperative cell salvage was considered but excluded. Following anesthetic induction, surgical access to the uterus proved difficult due to multiple vascular abdominal wall adhesions. Thirty minutes after anesthetic induction, a male infant was delivered (Apgar scores 1, 8 at one and ten minutes respectively). Brisk hemorrhage from placental bed was treated with two 5 unit boluses of oxytocin followed by a 10 unit/hr infusion, in addition to intramyometrial prostaglandin F2α (250µg).

Estimated blood loss was 2500ml and the patient was transfused with packed red cells (3 units), fresh frozen plasma (2 units) and crystalloid (3.5L). Adequate hydration, oxygenation, warming and analgesia were maintained perioperatively. Recovery was uneventfully and both mother and baby were discharged from hospital 6 days later.

Discussion: This high risk case highlights the importance of multidisciplinary care throughout pregnancy and delivery in order to achieve a successful outcome. In addition, flexibility of plans in response to changing circumstances is vital. Exchange transfusions remain controversial, although many consider it useful in patients with previous perinatal mortality and/or before CS. Successful use of cell salvage in a parturient with sickle trait has been reported(2). However, its use in patients with sickle cell disease should be avoided as the extent of sickling is likely to be extremely high.

References:
2. IJOA 2009; 18:90-91