ACUTE NORMOVOLEMIC HEMODILUTION DURING CAESARIAN SECTION FOR A JEHOVAH'S WITNESS PATIENT

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Introduction: Postpartum hemorrhage (PPH) is one of the leading causes of maternal morbidity and mortality worldwide. It is defined by the American College of Obstetrics and Gynecology as cumulative blood loss greater than 1000 mL with signs and symptoms of hypovolemia within 24 hours of the birth process, regardless of route of delivery. Recent evidence suggests that the prevalence of PPH is increasing alongside maternal mortality. Acute normovolemic hemodilution (ANH) is one approach to reducing the mass of red blood cells that is lost during surgery. It involves the controlled removal of whole blood prior to surgery and reinfusion of the removed blood at the conclusion of the operation.

Case Description: A 26-year-old pregnant woman was seen by our pre-operative clinic before planned C-section for 39 weeks. The patient was a Jehovah's Witness and would not accept albumin, allogeneic blood products, animal products, or hysterectomy. We confirmed that the patient would accept autologous blood and would accept cell saver. The patient presented 38 weeks and 5 days with premature rupture of membranes and was admitted for C-section at this time. Upon arrival to the operating room, cell salvage was set up, an arterial line was placed, and a combined spinal epidural was performed. A norepinephrine infusion was started, and autologous blood removal was started while crystalloid was infused into the patient. In total, 320 mL of venous blood was into a citrated blood collection bag and kept on an agitator at bedside. The patient gave birth to a healthy female infant. 1g tranexamic acid and 3 units of oxytocin was given over 30 seconds following delivery. Estimated blood loss was 300 cc and there was insufficient blood in the cell saver to spin. 320 mL of autologous blood was returned to the patient at the end of the c-section. Pre-operative hemoglobin was 11.5 g/dL. On post-operative day 1 hemoglobin was 10.9 g/dL.

Discussion: Each individual patient who is a Jehovah's Witness may have different acceptances for blood products and blood conservation management. The excellent outcome in this case highlights the key role of multidisciplinary coordination of care for the complex obstetrical patient.

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