Transfusion-Related Anaphylaxis During Emergent Cesarean Section Delivery

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Introduction: Perioperative anaphylaxis is a rare clinical event with an overall incidence of 1 in 10,000–20,000 anesthetic procedures. The most frequently implicated agents are muscle relaxants, latex, and antibiotics with blood components as a rare cause in only 1 out of 53,612 transfusions. Platelets account for the highest frequency (1:9630), followed by FFP (1:28,831) and packed RBC (1:57,869). We report a case of anaphylaxis likely induced by fresh frozen plasma.

Case Presentation: A 31 year-old primigravid with a history of asthma, and seasonal allergies presented for cesarean delivery under epidural anesthesia secondary to non-reassuring fetal heart rate tracing. Oxytocin infusion was initiated, but then increased to due to uterine atony and persistent bleeding. Methylergonovine IM was also administered. The surgical course was complicated by a posterior uterine perforation and a bladder perforation. Surgical repair of the uterus and bladder and a cystoscopy were performed. An estimated blood loss of > 2L and persistent hypotension were treated with 1 L of colloid and multiple doses of phenylephrine. Due to concerning decreases in Hgb and fibrinogen and a rising PT, 2 units of PRBCs and 1 unit each of cryoprecipitate and FFP were administered. Following the infusion of FFP, the patient became increasingly agitated, anxious and progressively confused. She also began wheezing and became dyspneic. Due to persistent desaturation, hypotension, and profound bradycardia, the patient was intubated and epinephrine 300 mcg IV administered. Hydrocortisone 100 mg and diphenhydramine 25 mg were also administered. Blood pressure and respiratory parameters stabilized and the patient was transferred to the intensive care unit for further management.

Discussion: IgA deficient patients have increased susceptibility to transfusion-related reactions; however, further testing did not demonstrate IgA deficiency or anti-IgA antibodies in our patient. Current recommendations for anaphylaxis treatment include the removal of offending agent, protection and maintenance of the airway, and treatment of cardiovascular collapse and bronchospasm with epinephrine and inhaled beta-2 agonists. No study supports or refutes the administration of corticosteroids or H1 receptor antagonists. Our patient was successfully treated with epinephrine, albuterol, corticosteroids and a H1 receptor antagonist. Future blood component transfusions will require pretreatment, leukocyte-reduced blood products, and washed blood products to minimize plasma exposure.

References: