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Case Description:

A 31 yo F at 31 weeks presented in labor with di-di twins, twin B complicated by a 15cm sacrococcygeal teratoma (SCT) and hydrops fetalis. She underwent cesarean delivery and twin B was taken for resuscitation. Intubation was difficult and performed by the anesthesiologist. Due to difficulty of umbilical access, intravenous (IV) access was obtained in upper and lower extremities and a radial arterial line was placed. Arterial blood gas was consistent with a combined metabolic and respiratory acidosis and laboratory data was concerning for consumptive coagulopathy. Echocardiogram showed high output failure. Patient was taken to the neonatal intensive care unit (NICU) for stabilization, however based on the rapid deterioration, decision was made to proceed with emergent laparotomy. Patient was positioned supine with multiple pads under the SCT to compensate for the distortion of anatomy. General anesthesia was administered with high dose fentanyl (50 mcg/kg) and rocuronium. Throughout the procedure, hemostasis was difficult requiring massive transfusion. This led to the complication of hyperkalemia with diffuse ST elevations, necessitating repeated treatment with sodium bicarbonate, calcium, epinephrine, insulin, and dextrose. Oxygenation and ventilation were also challenging. Due to instability and massive blood loss (estimated at 1.5 L) surgery was aborted after partial excision with return to NICU for ongoing resuscitation

Discussion:

SCT is the most common congenital neoplasm, occurring in 1/40,000 live births. Large SCTs are associated with high morbidity and mortality. Predictors of poor outcome include diagnosis before 20 weeks, delivery before 30 weeks, APGAR <7, low birth weight, and development of hydrops¹. There are multiple anesthetic considerations regarding management. There is high risk of tumor rupture and resultant massive hemorrhage during delivery, so it is imperative to have an operating room and universal donor blood products immediately available. Diffuse edema from fetal hydrops makes airway management and IV access challenging. High dose opioid anesthetic is advised to avoid the cardiodepressant effects of volatile agents. Massive transfusion leading to hyperkalemia was encountered, and has been reported in other cases of SCT removal. Use of washed/new PRBCs and an in line potassium filter may help decrease this risk. Ventilation and oxygenation are difficult in the setting of abdominal surgery in a premature neonate with immature lungs; manual ventilation and lifting the tumor by the surgeon may help. Due to the large surface area of the SCT, hypothermia is often encountered. A forced warming device and warmed IV fluids should be used. In conclusion, resection of a massive SCT requires the anesthesiologist to be prepared for multiple complications, including and not limited to hemorrhage, electrolyte imbalances, and difficult oxygenation and ventilation.

1. Abraham et al. *Janesth* 2010; 24:951-4

