Abstract # 237

A 20 Year Old Parturient with Preeclampsia Complicated by Thyrotoxicosis and Heart Failure

Abstract Type: Case Report/Case Series
Solmaz Pirzadeh, M.D.; Joan Spiegel, M.D.
BIDMC- Harvard Medical School

Introduction: Hyperthyroidism affects 1-2% of gravid women. It is associated with increased risk of preterm labor, IUGR, fetal loss and thyrotoxicosis. We report a patient with severe preeclampsia associated with thyrotoxicosis Resulting in emergent cesarean section under GA.

Case Report: A 20 y.o. G2P0 at 26 weeks' gestation presented with SOB, orthopnea, increased lower extremity and periorbital edema, and dry cough. Physical examination revealed an anxious and exhausted female. BP was 191/115mmHg, HR 110/min, RR 30/min, T 98.6°F, and O2 sat of 90% on RA. 2+ pitting edema was noted, and patellar hyperreflexia was present. UA showed 3+proteinuria. CXR exhibited cardiomegaly and bilateral pleural effusions; and ECG showed sinus tachycardia with NSTW abnormalities. A CT angiogram was negative for PE and serum toxicology screen was negative. Laboratory values were: protein to creatinine ratio of 2.4, TSH <.02. Prior to cesarean section, an arterial line was placed and a RSI was done with 100 mcg fentanyl, 150mg propofol and 100mg succinylcholine. A central line was placed without complication. Intraoperative hypertension was managed with esmolol, metoprolol and fentanyl. A female infant was delivered with Apgars of 4 and 7 and transported to the NICU. Post operatively, the patient remained intubated in the ICU; a 2-D echocardiogram demonstrated an EF of 33% with 2+ MR/TR; she was then started on beta- blockers, ACE inhibitors and furosemide. TBII (thyrotropin binding inhibitory immunoglobulin) was elevated at 71.4% (nl: <16%) and TSI (thyroid stimulating immunoglobulin) was positive. Free T4 was 8.5ng/dL (nl: 1.0-2.4). She was started on methimazole for Grave's disease. On postoperative day one the patient was extubated. A repeat echo one week later demonstrated an EF of 50% and 1+ MR. She was continued on methimazole and underwent radioiodine therapy several months later.

Discussion: In pregnancy, thyroid hormone, TSH and thyroxine binding globulin all increase, leading to increased levels of total T4 and serum T3. In 0.1-4% of pregnancies, is there continued elevation of these hormones leading to hyperthyroidism which can cause preterm labor, preeclampsia and cardiac failure. Anesthetic management of the patient with thyrotoxicosis includes a careful evaluation of the airway recognizing that significant enlargement of the thyroid gland can obstruct the trachea or bronchus. Regional anesthesia (RA) and GA are both acceptable for cesarean section, however, we avoided RA in our patient because of orthopnea. Ketamine should be avoided because of its ability to activate the sympathetic nervous system and propranolol may exacerbate congestive heart failure. Avoidance of epinephrine in epidural anesthetic test doses is also prudent.

References