

Chronic Pulmonary Embolus and Pulmonary Hypertension in a Primigravida with Protein S Deficiency

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20 year old G1P0 with PMHx acute saddle PE status post open embolectomy 6 months prior and strong family history of an unknown clotting disorder

16 weeks

- Hemoptysis in setting of enoxaparin noncompliance
- TTE revealed a normal EF without valvular abnormalities, moderate RV dysfunction, an immobile calcified mass attached to the RA inferolateral wall measuring 1.2 cm x 1.8 cm, chronic distal PE, and PAP of 67 mmHg
- Due to chronicity, CTS deferred intervention and patient was discharged on therapeutic enoxaparin

36 weeks

- Admitted with concern for placental abruption and fetal distress
- General anesthesia was induced and arterial line placed for emergent cesarean section
- A viable infant was delivered, and patient transferred to the ICU
- Managed by the critical care and OBGYN services, and started on furosemide and enoxaparin

Post-op

- Pneumonia and a new right main stem PE with multiple bilateral segmental and subsegmental emboli in the bilateral lungs
- Too high risk for open embolectomy, so interventional radiology was consulted for catheter directed thrombolysis
- Hypotension and PEA arrest

Discussion

- ♦ Protein S deficiency is an autosomal dominant thrombophilia that can cause VTE, and is also associated with recurrent miscarriage, late fetal loss, abruption, and pre-eclampsia
- ♦ Pregnancy is considered contraindicated in patients with severe pulmonary hypertension due to its **30-50% mortality rate**
- ♦ The hemodynamic changes associated with pregnancy, labor, and delivery worsen the PH and subsequent RV dysfunction. After placental extraction, **cardiac output and systemic vascular resistance increase dramatically** and may take up to 6 months to return to normal
- ♦ All accepted modes of delivery and anesthetic aim to **eliminate hemodynamic effect**. The most common methods include **vaginal delivery with slow oxytocin and low dose epidural and scheduled cesarean with incremental epidural dosing**
- ♦ Standard practice includes electrocardiography, pulse oximetry, invasive blood pressure monitoring, and post-operative ICU admission