When an AFE isn't just an Amniotic Fluid Embolism: AFE and Massive Pulmonary Embolism during Cesarean Delivery

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Introduction

- AFEs occur in 2-8 per 100,000 deliveries and is responsible for approximately 10% of maternal mortality in the United States
- Criteria for diagnosis include sudden onset of cardiorespiratory arrest, hypotension, mental status changes, signs of DIC, onset within 30 minutes of delivery and absence of fever
- We report a case of a patient undergoing cesarean delivery who developed an amniotic fluid embolism, hypotension, severe bradycardia, sudden loss of consciousness (LOC), coagulation abnormalities, inferior vena cava clot (IVC) and pulmonary embolism

Case Report

- A 33 y/o G2P1 parturient at 36 weeks gestation with h/o rheumatoid arthritis on etanercept presented for an elective CD due to placenta previa. Antenatal history was complicated by episodes of vaginal bleeding which required hospital admissions
- Combined spinal epidural was performed which achieved a T4 sensory level bilaterally
- She was hemodynamically stable until immediately after delivery when she lost consciousness, became bradycardic and hypotensive
- Epinephrine 100mcg IV was given three times with return of spontaneous circulation, but the patient did not regain consciousness

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Case Report

- She was intubated and invasive monitoring was started.
- Severe hypoxemia with PaO2 97 mmHg on FiO2 1.0 was noted and a repeat blood gas analysis after 30 minutes showed an improved PaO2 at 297 mmHg (FiO2 1.0).
- Coagulation studies showed a drop in fibrinogen to 93 mg/dL, INR 1.8 and platelet 49,000/mm3.
- A TTE showed good left and right ventricular function with no RV dilatation and a normal TAPSE.
- A TEE showed depressed LV function, good RV function and a 5 cm mobile clot at the junction of the IVC and RA (Figure 1).

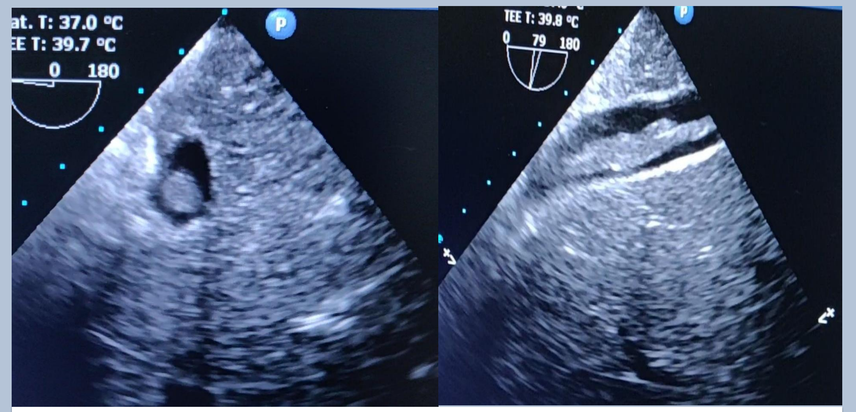

Figure 1: TEE showing clot in IVC

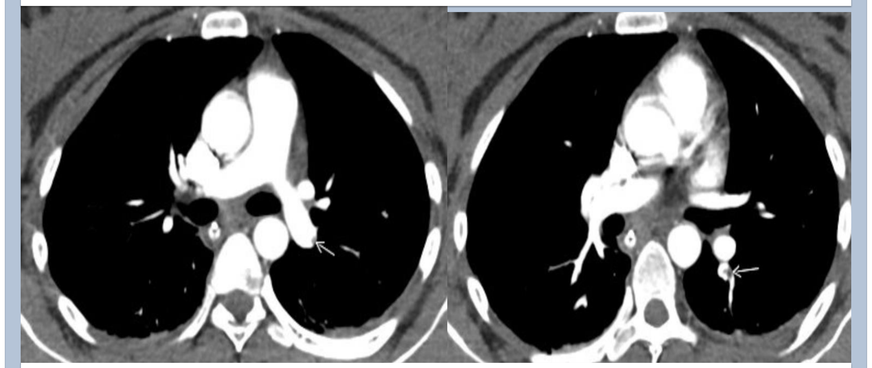

Figure 2: CT Angiogram showing pulmonary embolus in main pulmonary artery

Case Report

- Blood loss intraoperatively was 1600 ml. Heparin infusion was started in the ICU but she continued to be hemodynamically unstable
- CT angiogram of the chest and the abdomen showed a PE in the left main pulmonary artery (Figure 2) and a rectus sheath hematoma.
- Heparin was stopped and the patient was taken to IR for embolization of the left inferior epigastric and uterine arteries. The subsequent ICU course was uneventful

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Discussion

- AFE with varying degrees of severity is seen in pregnant women
- We report a case of AFE complicated by PE and bleeding into the rectus sheath
- Differential diagnosis for the patient's initial collapse included vasovagal syncope, bleeding from placenta previa or AFE.
- Her evolving clinical picture of hypoxemia, hemodynamic instability and coagulopathy were more suggestive of AFE
- The freely mobile 5 cm clot in the IVC could be the result of activation of coagulation cascade in the initial phase of AFE or from an undetected DVT (history of repeated hospitalizations and bed rest)

References

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