

Ovarian Vein Thrombosis Resulting in Cardiac Arrest Following Caesarean Delivery Under General Anaesthesia

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Introduction

- Ovarian vein thrombosis (OVT) is rare (incidence 0.049% - 0.18%) (1)
- Symptoms are nonspecific (2)
- Diagnosis is via imaging (Contrast CT/MRI recommended) (3)
- The mainstay of treatment is anticoagulation and antibiotics (2,4)
- Mortality is estimated at 5% and usually relates to malignant cases or those involving pulmonary embolism (PE) (5)
- Pre eclampsia is a risk factor for developing venous thromboembolism (6)

Presentation

- Primiparous patient in her early 40s at 38+4 weeks gestation
- Found to be in labour and experiencing preeclampsia
- PMH hypothyroidism and hypercholesterolaemia
- BMI of 28.
- Cardiotocograph (CTG) and examination normal
- Commenced on labetalol and magnesium and transferred to delivery suite

Clinical Course

- Poor progression of labour and grade two meconium
- Theatre for a trial of instrumental delivery > abandoned as high foetal position
- Decision to perform caesarean delivery
- Epidural top up > inadequate anaesthesia > proceed to general anaesthetic
- Caesarean delivery uneventful
- In recovery room > rapid deterioration
- Obtunded, hypertensive crisis, rapid desaturation despite escalating oxygen
- Cardiac arrest > intubated > cardiopulmonary resuscitation for two minutes
- Return of spontaneous circulation, ECG sinus rhythm, bedside echo NAD
- Transfer to ICU for imaging and management
- CTTAP > large ovarian vein thrombus extending to IVC, PEs and consolidation
- Anticoagulation for thrombus and antibiotics for aspiration pneumonia
- Repatriation to maternity hospital and discharge home with haematology f/u

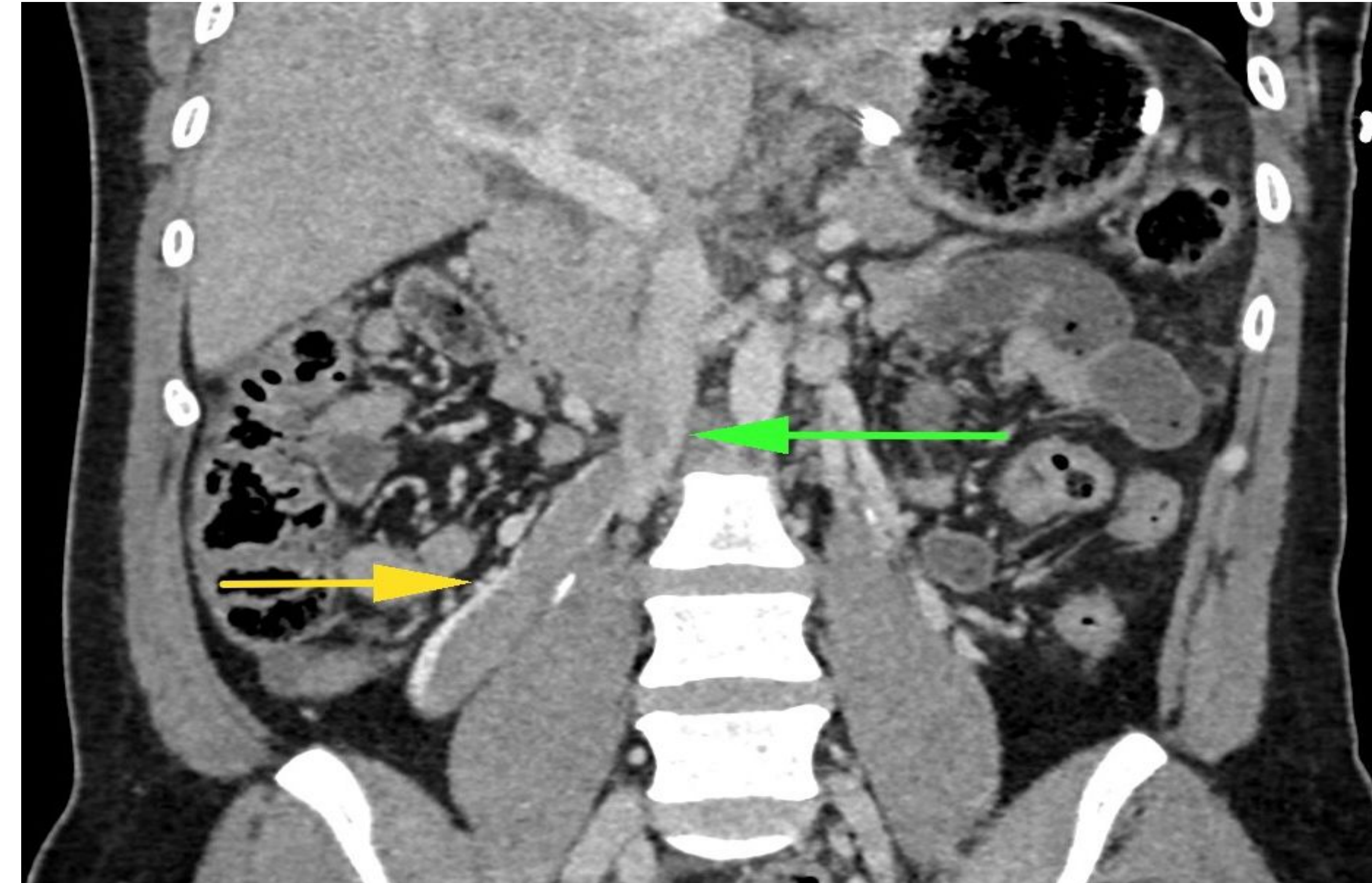


Image 1. CT imaging coronal plane abdomen and pelvis showing right ovarian vein thrombosis (left arrow) extending into the IVC (right arrow)

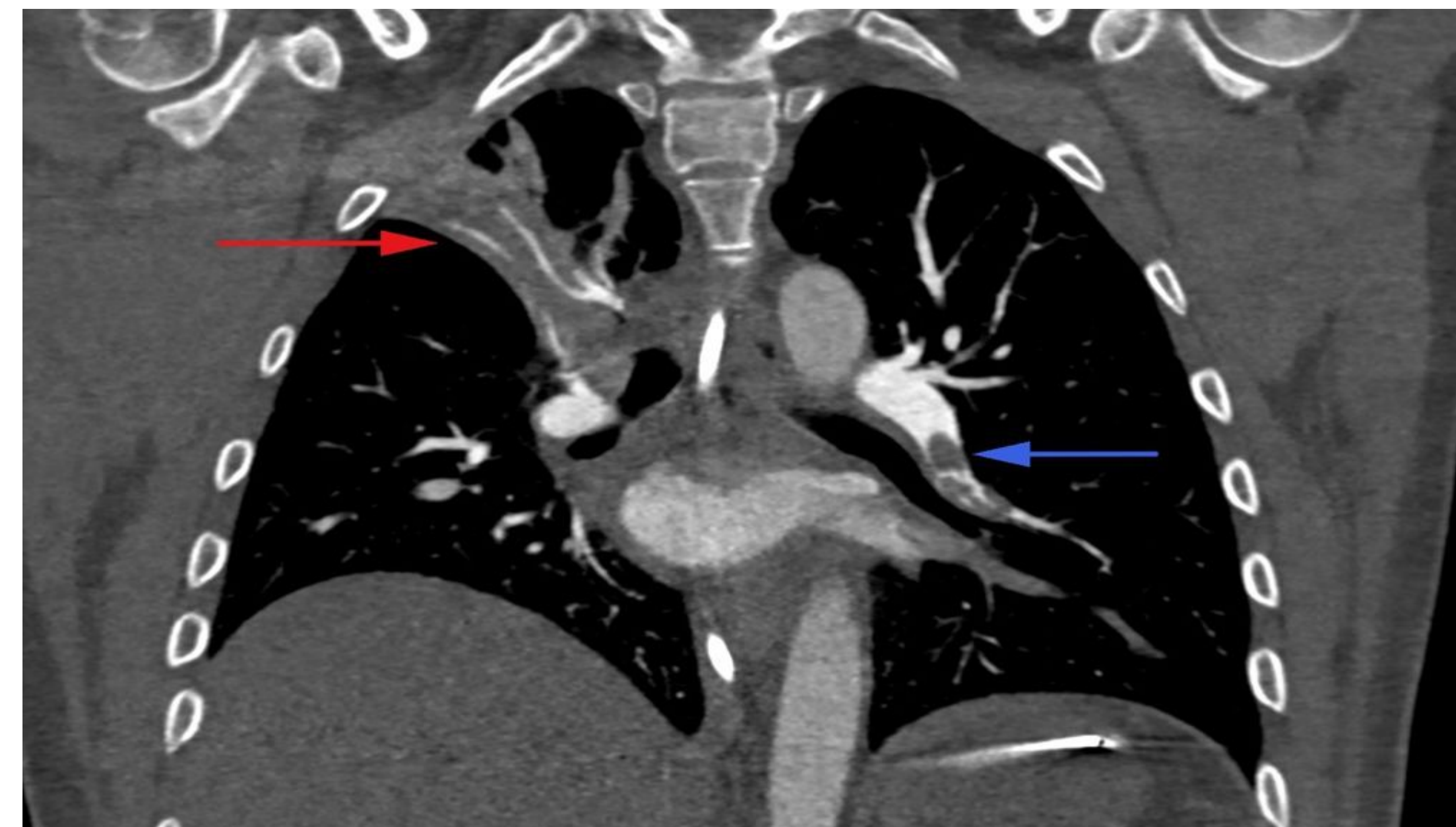


Image 2. CT thoracic imaging coronal plane showing pulmonary embolism in the left descending pulmonary artery (right arrow) with right upper lobe consolidation (left arrow).

Discussion

- **Differentials** inc. pre eclampsia (pulmonary/cerebral oedema), amniotic fluid embolus, intracranial haemorrhage, local anaesthetic toxicity, high epidural, magnesium toxicity, anaphylaxis, intra abdominal bleed
- **Normal bedside echocardiogram** - demonstrates high specificity, low sensitivity of echo in diagnosing PE. Good as a 'rule in' test, poor as 'rule out'
- **Blood gases** - mixed respiratory and metabolic acidosis with elevated lactate. Suggestive of tissue hypoxia/sepsis with concurrent respiratory pathology
- **Pro thrombotic processes** - pre eclampsia, pregnancy, and maternal age leading to formation of large thrombus during pregnancy. ?Disruption of thrombus during labour/surgery leading to PEs and subsequent arrest.

Learning Points

- Ovarian vein thrombosis is rare but it's sequelae may be catastrophic
- Presentation may be nonspecific and diagnosis is best made with contrast CT or MRI
- Blood gases may demonstrate mixed metabolic and respiratory acidosis
- Mainstay of treatment is antibiotics and anticoagulants
- Bedside echocardiogram is specific but not sensitive in diagnosing PE

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