Case Report: Diagnosis and Management of Extensive Deep Vein Thrombosis in Pregnancy

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Introduction

Venous thrombosis remains the leading cause of direct maternal death according to the November 2018 EMBBRACE[1] report. Pregnancy itself is an independent risk factor for developing deep vein thrombosis (DVT). Pregnancy related DVTs are more commonly found on the left side and more likely to be diagnosed postnatal. Right-sided proximal pelvic DVT can pose diagnostic difficulties. Here, we report a case of extensive right side proximal iliac vein thrombus extending into inferior vena cava (IVC) diagnosed in the first trimester of pregnancy.

Presenting Complaint

A 31 years old lady presented to her general practitioner (GP) with 2 days history of progressive right iliac fossa pain and reported flu-like symptoms with diarrhoea and vomiting the week prior to admission. She was then found out to be pregnant with positive urine pregnancy test at the GP. Therefore referral to gynaecology query ectopic pregnancy.

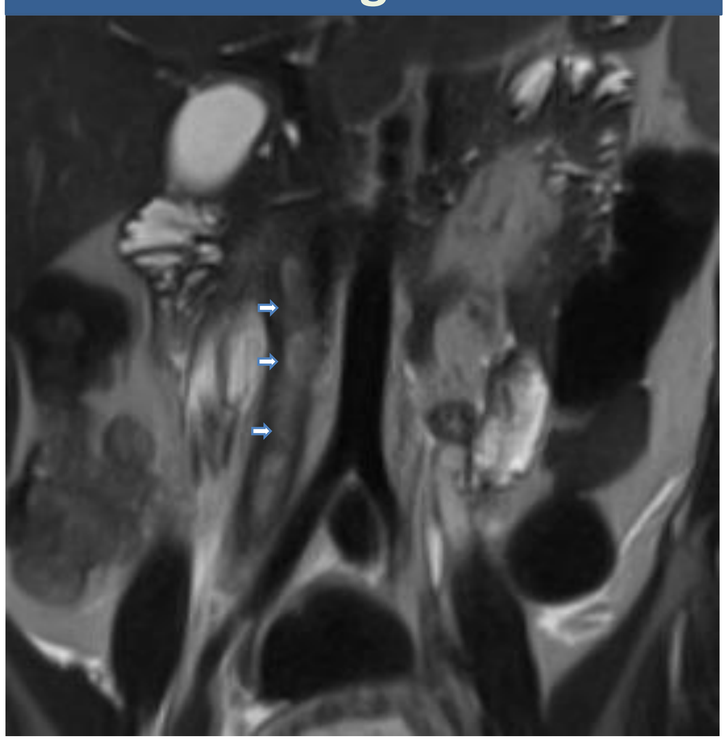
She was Para 3 with three uneventful vaginal deliveries and no risk factors for ectopic pregnancy. She had no history of previous ectopic pregnancy, not on contraception when conceived, non smoker and had no history of sexually transmitted disease.

Examination revealed tender right iliac fossa with positive Rovsing's sign, a closed cervical os and no PV bleed or cervical excitation. Observations were normal, urine dipstick negative for infection.

Admission bloods: Hb 133 WCC 9.6 Plt 296 CRP 40 U&E NAD LFTs NAD

Ultrasound abdomen and pelvis showed normal abdominal structures and confirmed a single intrauterine pregnancy with a known septated cyst measuring 7x6cm lying behind the uterus, unchanged from her previous pregnancy. Therefore, surgical opinion was sought, query appendicitis.

Image 1



Upper Right Iliac vein and IVC showing extensive acute thrombus.

Hospital Stay

While under surgical team, she was made nil by mouth (NVM) overnight with IV fluids. Pain not settling overnight.

Repeat bloods: Hb 107 WCC 7.6 CRP 47 U&E NAD

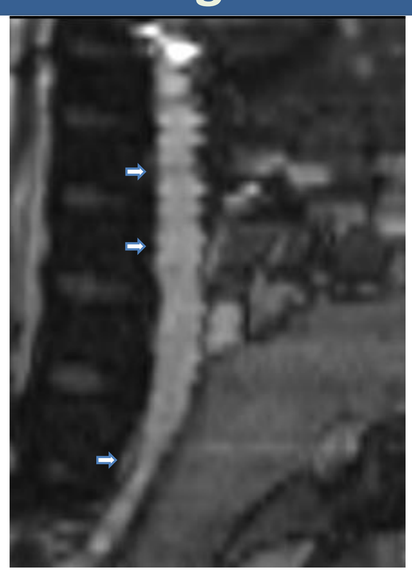
Management options discussed with the woman between diagnostic laparoscopy vs MRI pelvis. Patient opted for MRI pelvis, which showed DVT extending from right iliac vein into IVC well above renal vein (Image 1) thus not suitable for IVC filter insertion.

Multidisciplinary team (MDT) were involved in the management of this extensive DVT and her pregnancy including haematology team, pain team, medical team, anaesthetics, interventional radiologists and gynaecology team.

She was managed medically with treatment dose clexane titrated to antiXa level throughout pregnancy with regular input from haematologist and follow up MR venogram scans 3 weeks before planned delivery showed significant improvement of thrombus on IVC (Image 2). MDT decision about mode of delivery made. She was induced at 38 weeks to optimise timing of delivery and minimise chance of haemorrhage. Clexane was stopped 24 hours prior to induction and restarted 6 hours post delivery for 6 weeks postnatal.

She had a postnatal review 6 weeks postnatal and was advised to avoid any factors that will increase thrombotic risk such as combined oral contraceptive pills.

Image 2



Sagittal reformatted T2 MR acquired in left lateral decubitus position which shows no thrombus in right iliac vein or IVC

Discussion

Could IVC filter be used in this case?
IVC filter was shown to be safe to use in pregnancy[2,3], and society of interventional radiology (SIR) guidelines recommend the use of suprarenal IVC filter in pregnancy if indicated[4]. However, interventional radiologist felt IVC filter could not be used in this case because the thrombus has extended well above the renal veins.

Furthermore, the British committee for standards in haematology IVC filter guidelines only recommend considering IVC filter placement in pregnant patient with venous thromboembolism (VTE) and contraindicated to anticoagulations (e.g. estimated delivery within 2 weeks or placenta praevia). IVC filter is not recommended in patients who can otherwise receive anticoagulation[5].

Can other anticoagulants be used?
RCOG guideline[6] recommend low molecular weight heparin (LMWH) as first line treatment for acute VTE. Vitamin K antagonists such as warfarin should not be used in antenatal period due to their adverse effect on fetus. New anticoagulants such as fonduparinux can be considered if patient can not tolerate heparin and is in need for long-term anticoagulation.

Should she be tested for thrombophilia?
Although almost half of all women who developed VTE in pregnancy will have an underlying heritable or acquired thrombophilia, this does not alter the management so routine screening is not recommended in acute setting. Postnatal review and screening for thrombophilia can be considered if it is thought to be beneficial for future pregnancy[6]. This patient is very sure that her family is complete.

In addition, it is thought that this is a provoked DVT from severe dehydration and immobility the week prior to admission than thrombophilia given her previous three uneventful pregnancies.

Contact

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References

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