Case Reports

Picture Quiz: An Acute, Blue, Swollen, Painful Leg

R Honney, J Bhullar & P Swales

Case History

A 55 year old male presented to the Acute Medical Unit with a one hour history of pain and swelling of his right leg with resultant inability to weight bear. He denied any preceding history of trauma. Previous medical history was unremarkable. He was taking no regular medications, and did not use recreational drugs. There was no prior weight change, or alteration in bowel habit, no associated chest pain or dyspnoea and there were no risk factors for venous thromboembolism or arterial thrombotic disease. He was a lifelong non-smoker.

On examination he was pale and agitated, with a supine blood pressure of 100/74 mmHg and a sinus tachycardia of 123bpm. He was afebrile. Oxygen saturations were 97% on air. Respiratory rate was 20/minute. His right leg was exquisitely painful, oedematous, cool, and mottled blue (Figure 1). Superficial veins were not distended. Popliteal, posterior tibial and dorsalis pedis pulses were not palpable in his right lower limb. All other peripheral pulses were palpable and equal, with no bruits. The rest of the cardiovascular and respiratory examination was unremarkable. Abdomen was soft and non-tender with no masses or organomegaly.

Laboratory blood tests were normal apart from a leucocytosis (neutrophilia) of 14.9 x10^9/l (normal range 4-11), C-reactive protein of 36 mg/l (normal range <7.5) and elevated d-dimers of 9171ng/ml (Normal range <250). Arterial blood gas testing was undertaken on air: pH 7.363 (Normal range 7.35-7.45); PaO2 9.27kPa (Normal range 11.1-14.4); PaCO2 3.42kPa (Normal range 4.50-6.10); Lactate 4.6mmol/l (Normal range 0.6-2.5). An electrocardiogram demonstrated sinus tachycardia with no features suggestive of right heart strain. His chest x-ray was normal.

Following initial investigation and management, a CT scan was undertaken (Figure 2).

Questions

1. What is the differential diagnosis of a cold, painful, mottled blue limb?
2. What immediate investigation would you undertake to identify the cause?
3. What is the abnormality on the CT scan of the abdomen and pelvis shown in Figure 2?
4. How would you manage this patient?
5. What investigations would you undertake to identify risk factors for this condition?

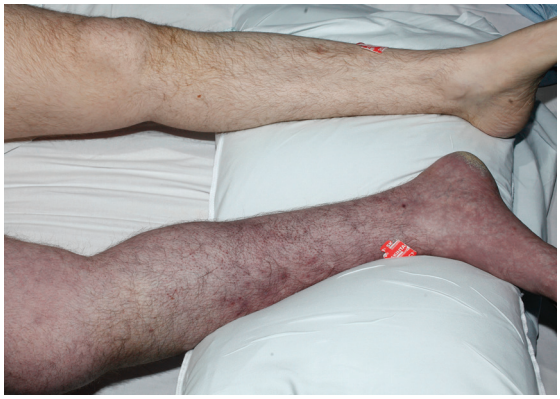

Figure 1. Mottled, blue, painful, swollen right lower limb at presentation.

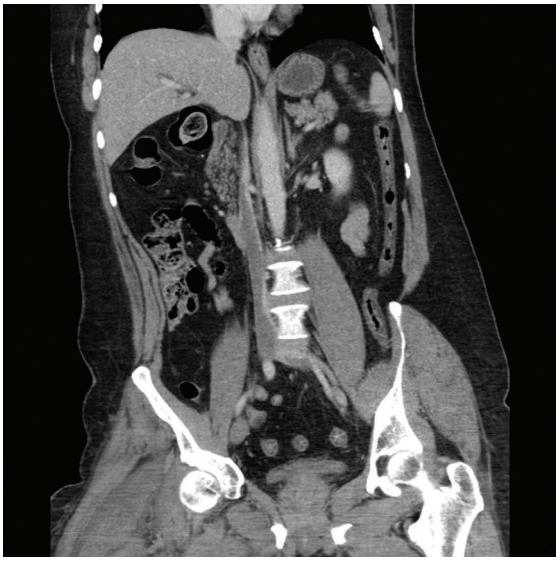

Figure 2. CT Scan Abdomen & Pelvis

R Honney
BMBChMA(oxon)
ST1 General Practice (Wessex Deanery)
Department of Medicine & Elderly Care
Royal Hampshire County Hospital

J Bhullar
BM, MRCP UK
Specialist Registrar in Acute Medicine (Wessex Deanery)
Department of Medicine & Elderly Care
Royal Hampshire County Hospital

P Swales
MBBS, BSc, MRCP UK
Consultant Physician, Clinical Lead in Acute Medicine
Department of Medicine & Elderly Care
Royal Hampshire County Hospital

Correspondence:
Dr Rory Honney
Acute Medical Unit
McGill Ward
Royal Hampshire County Hospital
Romsey Road
Winchester
SO22 5DG
Email: roryhonney@doctors.org.uk