Case 10712

Bilateral deep vein thrombosis secondary to an enlarged retroperitoneal lymph node
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Section: Abdominal imaging
Area of Interest: Thorax Abdomen Veins / Vena cava
Procedure: Diagnostic procedure
Imaging Technique: Conventional radiography
Imaging Technique: CT
Special Focus: Embolism / Thrombosis Case Type: Clinical Cases
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Patient: 20 years, male

Clinical History:
A healthy 20-year-old man presented with two weeks' history of lower back pain and bilateral lower limb swelling.
Routine blood work-up showed raised C-reactive protein of 245mg/l and white blood cell count of 11.5 x10^9/l.
Renal function, liver function tests, bone profile and tumour markers (CA19-9, alpha fetoprotein) were normal.

Imaging Findings:
Plain chest and abdominal radiographs were unremarkable (Figure 1 and 2). Ultrasound of lower limbs revealed an extensive occlusive thrombus within the common femoral veins (CFV) extending into the iliac veins and inferior vena cava (IVC) as well as 3 cm mass abutting the wall of the IVC. Computed Tomography (CT) (abdomen and pelvis) confirmed the presence of the extensive deep vein thrombosis (DVT) (Figure 3) and 3.2 x 3x 2.7cm soft tissue mass just below the umbilical level, but no other pathologies (Figure 4). Additionally, CT chest and scrotal ultrasound (US) were performed, both revealed no abnormalities. Following discussion at the sarcoma multidisciplinary team meeting, an open biopsy of the mass was performed. The histopathological examination of the retroperitoneal mass showed a lymph node (LN) tissue only. Culture and specific stains were negative for mycobacterial or fungal infection.

Discussion:
To our knowledge this is the first reported case of bilateral deep veins thrombosis (DVT) caused by a normal retroperitoneal LN enlargement.
Primary retroperitoneal masses are uncommon, 70%–80% are malignant in nature, and these account for 0.1%–0.2% of all body malignancies. Retroperitoneal neoplasms are most commonly mesodermal, neurogenic or lymphatic in origin [1]. Among them, lymphoma accounts for 33% of all of these cases [2]. Therefore, in the presented case it was important to rule out neoplasm. Histological diagnosis confirmed that this large and symptomatic retroperitoneal mass was a normal LN tissue. Some LNs are physiologically bigger than the other including reactive LNs. However, such enlargement does not imply pathology of the LN itself. In this case, the cause for this LN enlargement remains unknown.
Differential diagnoses of DVT presentation should also be considered. DVT could be due to thrombophilic predisposition [3], but also secondary to congenital caval abnormalities [4, 5] or mechanical IVC obstruction from sarcoidosis [6], Kaposi sarcoma [7], polycystic kidney cyst [8] or retroperitoneal haematoma [9] as reported in the
Clinical examination and imaging should guide further management, and where there is an evidence of mass obstructing the IVC, a biopsy should be performed for further evaluation. In the presented case, the patient underwent laparotomy and retroperitoneal mass was excised. Post operatively a CT of the abdomen and pelvis demonstrated no abnormalities and confirmed the resolution of the IVC and common femoral veins (CFVs) obstruction (Figures 5 and 6). Although, imaging is not routinely required in order to confirm resolution of the mechanical obstruction, an abdominal/pelvic CT was performed, because following laparotomy the patient developed diffuse abdominal pain and tenderness. The patient was managed conservatively (analgesia, nil by mouth and intravenous fluids) and was discharged few days later. Pharmacological treatment is usually conservative with an oral anticoagulation. Similarly, in this case the patient was commenced on Warfarin. However, in cases of extensive and symptomatic bilateral iliofemoral DVT mechanical or pharmacologic catheter-directed thrombolysis should be considered [10, 11].

Learning points:
1. Bilateral DVT of lower limbs is uncommon, and the imaging can guide further management.
2. CT is used to diagnose and assess the size and extent of retroperitoneal mass, as well as assess the involvement of organs and vasculature with resection in mind.
3. Oral anticoagulation might be sufficient but in cases with extensive bilateral symptomatic DVT mechanical clot evacuation under image guidance or thrombolysis should be considered.

Differential Diagnosis List: Bilateral DVT caused by an enlarged lymph node., Sarcoma, Sarcoidosis, Lymphoma

Final Diagnosis: Bilateral DVT caused by an enlarged lymph node.

References:


vascular surgery 25:707-715 (PMID: 21306867)
Figure 1

Description: Chest radiograph. Origin: ABM University Health Board, Morriston Hospital, Swansea, United Kingdom
Description: Abdominal radiograph. Origin: ABM University Health Board, Morriston Hospital, Swansea, United Kingdom
Figure 3

Description: Bilateral deep vein thrombosis. Origin: ABM University Health Board, Morriston Hospital, Swansea, United Kingdom
Figure 4

Description: Mass abutting the IVC. Origin: ABM University Health Board, Morriston Hospital, Swansea, United Kingdom
Description: Resolved obstruction of the IVC. Origin: ABM University Health Board, Morriston Hospital, Swansea, United Kingdom
Description: Non-dilated common femoral veins. Origin: ABM University Health Board, Morriston Hospital, Swansea, United Kingdom