

Case Report

Sudden Onset Lower Limb Pain and Paraesthesia: A Case Report

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ABSTRACT

We describe the case of a woman with a metastatic pancreatic cancer and previous coronary artery disease who develops an acute Leriche syndrome. She arrived to emergency for onset orthopnea and dyspnoea on mild exertion. During the hospitalization is made a diagnosis of metastatic pancreatic adenocarcinoma. 10 days after admission suddenly the women reported severe pain in lower limbs and she was unable to maintain an upright position. Femoral, popliteal and posterior tibial pulses were not palpable bilaterally. At the Echo-doppler of the lower limbs limb pulses were barely appreciable with a tardus-parvus waveform. angiography showed critical thrombus formation in the sub-renal descending segment of the aorta and iliac arteries (which are CT commonly found in Leriche Syndrome); there was no perfusion of the inferior mesenteric artery; the internal and external iliac arteries as well as thigh and leg arteries showed slow and filiform flow with multiple sub-stenotic segments. Despite the immediate medical and surgical treatment woman died. Patients without known atherosclerosis risk factors should be investigated for hypercoagulable diseases or for co-morbidities which carry an increased risk of thrombo-embolism such as cancer. Considering that cancer and cardiovascular diseases are closely related, acute sub-renal aortic thrombosis should be considered when a patient presents with or develops unclear symptoms of sudden pain in the lower limbs with associated paralysis or paraesthesia and vascular investigations, such as ECHO-doppler and CT angiogram, must be performed.

Keywords: Lower limb pain; Peripheral pulses; Critical thrombus; Subrenal aorta; Iliac arteries.

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We report a rare case of acute abdominal aorta occlusion and discuss its causes, clinical presentations, and therapy. A 65 year old female presented to the emergency department with a few days history of new onset orthopnea and dyspnoea on mild exertion. Her past medical history included ischaemic heart disease treated with triple aorto-coronary bypass 10 years ago, hypertension, dyslipidaemia and type 2 diabetes mellitus. Her regular medications were clopidogrel, ramipril, atorvastatin, isosorbide mononitrate, carvedilol and insulin. She had no known allergies.

On admission to the department of internal medicine she improved following intravenous ceftriaxone, azithromycin and furosemide in addition to her regular medications. On examination she looked gen-

erally well, was well perfused and had pink mucous membranes. She was alert and reactive and was able to appropriately follow commands. She denied shortness of breath or chest pain following initial treatment in hospital. Abdomen was mildly distended and non-tender. Bilateral ankle oedema was noted. Lower limb peripheral pulses were palpable bilaterally but were noted to be faint. Gait was normal, and there was no claudication on walking short distances in the department. Oxygen saturation, 100% while breathing ambient air. Heart rate: 70 beats per minute. Blood pressure: 140/70 mmHg.

Cardiac ECHO

Left ventricular hypertrophy with a modestly reduced ejection fraction (EF=48%). Normal left ventricular mobility with preserved lateral wall thickness. Insufficiency of the mitral valve with moderate regurgitation.

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Dilated left atrium. Sclerosis of the semilunar aortic valves with mild regurgitation. The right heart shows conserved global function. Normal flow from inferior vena cava. No signs of pericardial effusion.

CT Thorax with Contrast

Bands of parenchymal thickening in the right middle lobe and left lower lobe. Bilateral pleural effusion. No significant mediastinal or parabranchial lymphadenopathy. Patent trachea and bronchi. Normal opacification of the pulmonary trunk and major branches of the pulmonary artery. Cardiomegaly noted.

CT Abdomen and Pelvis with Contrast

No peritoneal effusion. Hepatomegaly, with inhomogeneous parenchymal density due to multiple focal lesions, metastatic in nature (max 5cm). Gallbladder mildly distended. Biliary tract not dilated. Patent portal vein and splenic veins. Hypodense 3cm lesion in the pancreatic tail compatible with pancreatic cancer. Spleen within normal dimensions with evidence of a large area of hypodensity secondary to hypoperfusion. Adrenals within normal dimensions and homogenous density. Both kidneys in situ, within normal dimensions, with normal enhancement of contrast post-excretion. Ureters not dilated. Bladder dilated, with markedly thickened walls and pseudo-diverticulae present. Diffuse atheromatous calcifications of the aortic and iliac arteries. [Table 1] shows the laboratory results.

Table 1. Laboratory Results

Variable	Result	Normal Range
Creatinine (mg/dL)	0.75	0.70–1.20
Sodium (mmol/L)	141	135–145
Potassium (mmol/L)	3.9	3.5–5.0
Creatine phosphokinase (U/L)	33	60–190
Aspartate aminotransferase (U/L)	18	10–40
Alanine aminotransferase (U/L)	10	10–40
Hemoglobin (g/dL)	12.1	12.0–16.0
Platelet count (per mm ³)	264000	150000–400000
Gamma glutamyl transferase (U/L)	75	<55
Alkaline phosphatase (U/L)	182	40–130
Lactate dehydrogenase (U/L)	323	135–225
Amylase (U/L)	31	28–100
Lipase (IU/L)	13	Aug-57
Glucose (mg/dL)	201	54–118
C-reactive protein (mg/L)	49	<2
Brain Natriuretic Peptide (pg/mL)	3033	<100

10 days after admission liver needle biopsy was performed via vascular radiology which showed pancreatic adenocarcinoma. On returning to the department of Internal Medicine she reported severe pain in lower limbs, worse on the right, which did not improve with ketorolac. She displayed functional impairment and was unable to maintain an upright position. She had severe psycho-motor agitation, predominantly linked to pain and anxiety. Femoral, popliteal and posterior tibial

pulses were not palpable bilaterally. Echo-doppler of the lower limbs was performed which showed barely appreciable lower limb pulses, with a tardus-parvus waveform, at the level of the femoral, popliteal, and posterior tibial arteries bilaterally, suggestive of upstream obstruction.

CT angiography was therefore performed which showed atherosclerotic changes with associated critical thrombus formation in the sub-renal descending segment of the aorta and iliac arteries, which are commonly found in Leriche Syndrome. Calcification and atherosclerosis were also evident in the renal arteries, superior mesenteric artery, and celiac trunk, with discrete narrowing of these vessels in multiple segments. There was no perfusion of the inferior mesenteric artery. The internal and external iliac arteries as well as thigh and leg arteries showed slow and filiform flow with multiple sub-stenotic segments.

A treatment with full doses of heparin was introduced and the patient was immediately taken to the vascular surgery department where she underwent an open aortic surgery. Following this she went to a critical care unit where she died a few hours later.

Cancer and cardiovascular diseases are closely related: cancer increases the likelihood of getting cardiovascular diseases and vice-versa.¹ Here we describe the case of a woman with a metastatic pancreatic cancer and previous coronary artery disease who develops an acute Leriche syndrome.

Sub-renal aortic occlusion is a rare condition with potentially catastrophic consequences which has historically carried a mortality of greater than 50%.² However, recently this seems to be improving.³ The most common cause is acute thrombosis of pre-existing aortic-iliac disease, with other possible causes being saddle embolus (especially in patients who are cardiopathic), thrombosis of an aortic aneurysm, thrombosis of stents or grafts and thromboses secondary to trauma. However, there have been previous reports of cases of acute aortic occlusion in patients without risk factors.⁴ Patients without known atherosclerosis risk factors should be investigated for hypercoagulable diseases or for co-morbidities which carry an increased risk of thrombo-embolism such as cancer, Crohn's disease or nephrotic syndrome.⁵

The most common presentation of aortoiliac occlusive disease is acute and sudden onset pain in the lower limbs associate with paraesthesia or paralysis of the lower limbs; these symptoms can be misleading to the clinician, who may investigate for neurological causes and delay diagnosis or appropriate investigation, which could have detrimental consequences.⁶⁻⁸

Therapeutic options include open aortic surgery, axillary-bifemoral bypass, aorto-bifemoral bypass or endovascular procedures such as angioplasty. Amputation is necessary in approximately 10% of cases and mortality in the post-operative period is still very high.

In conclusion, acute sub-renal aortic thrombosis is a rare condition which should be considered when a patient presents with or develops unclear symptoms of sudden pain in the lower limbs with associated paralysis or paraesthesia, and the clinician should urgently request vascular investigations such as ECHO-doppler and CT angiogram, without delaying them for neurological investigations. In cases

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such as these prompt investigation and management is important since this condition often has catastrophic outcomes.

CONFLICTS OF INTEREST

None.

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