

A Case of Acute Aorto Iliac Thombosis with Predominant Neurologic Manifestations as Rare Presentation

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Abstract: Aortic saddle thrombosis is not an exotic condition and given the trend towards catheter-based endovascular treatments which offer the advantages of faster recovery, this is definitely no longer a deadly disease. However in rare instances it can present without its classical triad of symptoms which can lead to difficulty in recognizing this pathology. These cases can be potentially catastrophic. Here we present a case of acute aorto-iliac occlusive disease which masqueraded itself as a spinal infarct, making the clinicians go for a spin.

Keywords: Aortoiliac thrombosis, Neurological manifestations, Contrast CT

INTRODUCTION

Atheromatous occlusion of the distal abdominal aorta at the bifurcation into the common iliac arteries presents with symptoms of buttock claudication with erectile dysfunction in patients with absent femoral pulses. This constellation of symptoms is termed Leriche syndrome, named for the surgeon who described the condition in 1923. Usually affects younger males ages 30-40. Risk factors include Cigarette smoking, Hypercholesterolemia, elevated blood pressure, obesity and family history of heart disease [1]. Due to the slowly progressive nature of the occlusive process, rich collateral vessels usually salvage the lower extremity preventing limb-threatening ischemia.

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CASE REPORT

A 24 year male smoker presents to the Medicine Outdoor with non-specific complaints of acute onset dull aching pain in the back with numbness and weakness in the bilateral lower limbs. There was no history of preceding trauma, and the patient is not a known diabetic or hypertensive. Neurological evaluation of the patient revealed no significant

derangement and patient was advised for follow up in outdoor.

As day progressed the patient noted that the numbness is progressing at alarming rate and he presented to the emergency dept. This time it was noted that there is spinal tenderness. Neurological examination revealed a conscious, alert patient responding to verbal commands. Ocular movements were normal. On examination of the motor system, muscle power was decreased in the bilateral lower limb (0-1/5, MRC Grade) with bowel and bladder involvement. Biochemical parameters were normal. ECG revealed LV strain pattern.

Acute onset paraplegia in a young male prompted a clinical diagnosis of spinal cord pathology and patient was evaluated with MR of the lumbar spine. The MRI revealed a disc bulge at L5 level with in no way could explain the complaints.

By now he had developed significant cyanosis of the bilateral toes and the distal pulses were not palpable. He now presented to our department for an emergency Doppler evaluation.

The Doppler revealed low resistance, low velocity waveforms in both external iliac and common femoral and the distal arterial tree. The proximal abdominal aorta was normal. However the infra renal

part could not be evaluated as it is very common to find bowel gas obscuring this segment of aorta.

The discoloration was progressing rapidly and patient was advised an emergency CTA for evaluation of the occluded segment. Contrast CT in the arterial phase revealed complete occlusion of the aorta distal to the renal arteries extending into the bilateral common iliac arteries.



Fig-1:

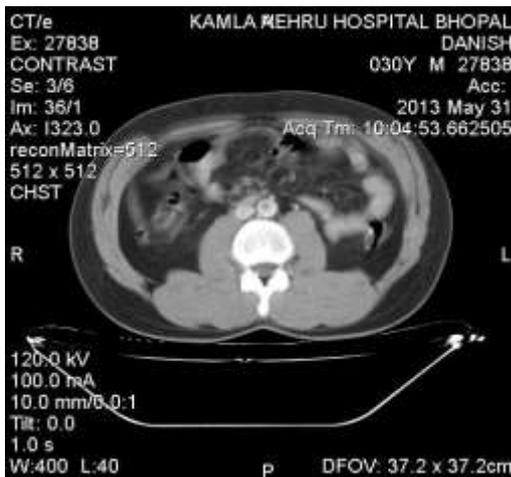


Fig-2:

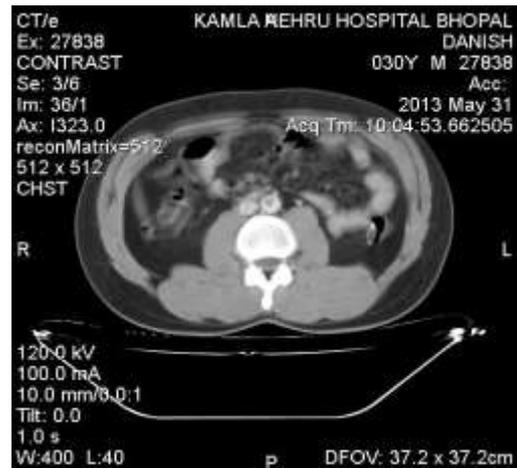


Fig-3:

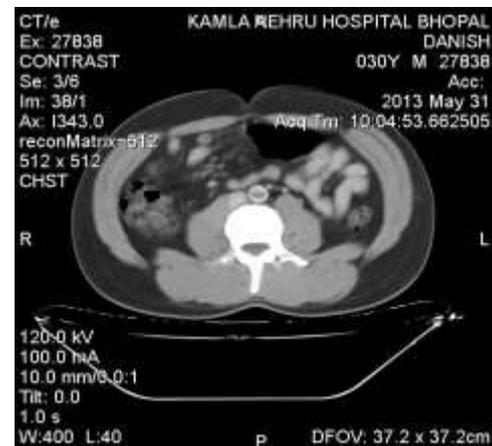


Fig-4:

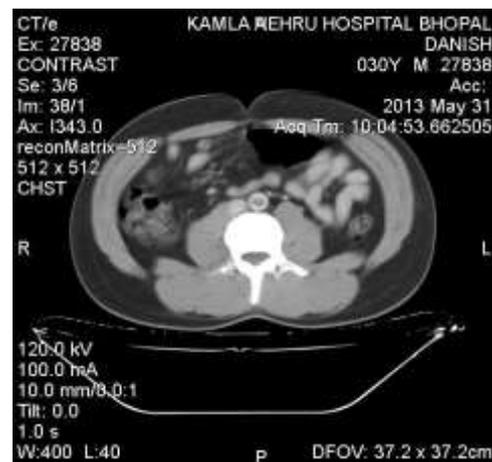


Fig-5:

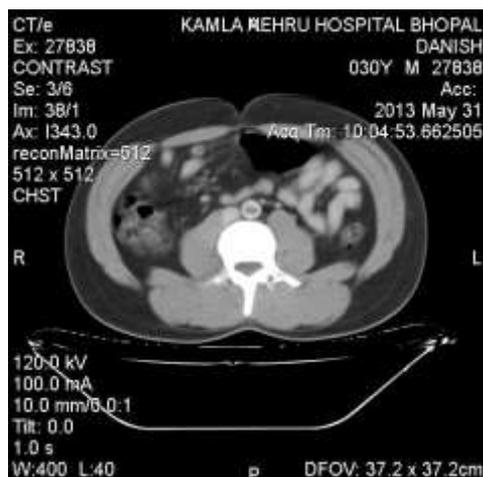


Fig-6:

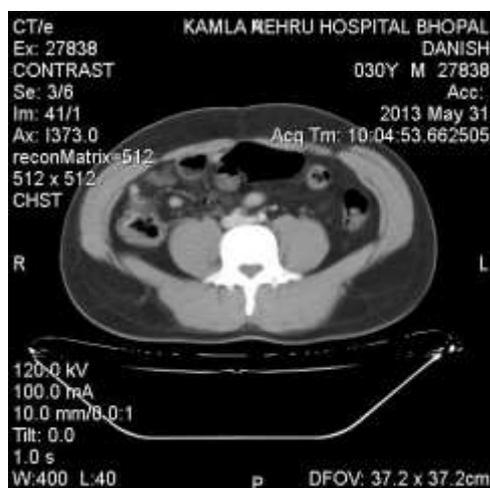


Fig-7:

With the diagnosis of acute aorto iliac obstruction, patient was taken for an emergency catheter embolectomy. But the delayed Door to Table time (>24 hours) meant that the patient had significantly poor prognosis. Post procedure patient developed reperfusion injury with resultant myoglobiunria, which resulted in acute renal shutdown and electerolyte disturbances. Despite critical management, patient succumbed to the complications.

DISCUSSION

Atherosclerosis of aorta is classified and described in three types. Type I atherosclerosis involves the infrarenal aorta and common iliac arteries only (present in about 5-10% of patients with peripheral arterial disease) and occurs more commonly in women. Type II atherosclerosis involves the infrarenal aorta, common and external iliac arteries, and may extend into the common femoral arteries (35% of patients with peripheral arterial disease). Type III atherosclerosis is the most severe form and, unfortunately, also the most common. This pattern of atherosclerosis involves the infrarenal aorta, iliac, femoral, popliteal, and tibial

arteries. Extension of disease into the EIA increases procedural complexity and decreases the durability of the intervention [9]. The composition of the atherosclerotic plaque, rather than the degree of stenosis, appears to be a critical predictor for both the risk of plaque rupture and subsequent thrombogenicity [2]. Plaque rupture can also be precipitated by abdominal trauma leading onto thrombosis and occlusion [3].

To the best of our knowledge, only few case of thrombotic occlusion of the abdominal aorta (Leriche's syndrome) has been described in Indian literature [4, 8]. The present case deviates from the usual Leriche's syndrome by its acuteness of presentation, predominance of neurological rather than ischemic complaints and absence of history of impotence in the male.

Acute occlusion in most cases is heralded by sudden onset of excruciating unilateral / bilateral lower extremity pain that radiates from the mid-thigh distally associated with weakness, numbness and paresthesias. Less common manifestations include sudden onset of lower extremity weakness either unilateral or bilateral, severe hypertension due to renal artery involvement and abdominal pain from mesenteric ischemia.

When neurological symptoms predominate patients are often mistakenly thought to have spinal cord infarction or CNS event and the ischemic symptoms may be initially overlooked as happened in the present case. In fact as many as 11-17% of such patients, first undergo neurological or neurosurgical evaluation before the vascular cause is recognized.

Most cases on examination reveal cold, pale extremity that are cyanotic and often exhibit a mottled, reticulated and reddish blue appearance that may progress to the blue-black color of gangrene. Pulses are notably absent below the involved segment of the vessel and capillary refill is absent [5]. Persistent ischemia may lead to myonecrosis with elevated creatine phosphokinase levels, secondary hyperkalemia, myoglobinuria and renal acute tubular necrosis. If arterial perfusion is not established within hours, death may supervene due to cardiovascular complications, which is the most important cause of morbidity in these patients with or without treatment [6]. An arteriogram can help confirm the diagnosis, define the vascular anatomy and degree of perfusion and guide management.

Surgical treatment of AIOD is considered an appropriate method of management with favorable outcome. The goals of therapy include restoration of blood flow, preservation of limb and life and prevention of recurrent thrombosis or embolism [5]. Traditional surgical treatments for aortoiliac occlusive diseases are

aortoiliac endarterectomy (TEA) and aortobifemoral bypass (AFB). For higher-risk patients, there are alternative ways to avoid abdominal surgery such as axillofemoral bypass (extra-anatomic technique) and percutaneous transluminal angioplasty (PTA) and stenting.

Pre-clinical studies have shown that angiogenetic growth factors promote development of collateral arteries. It is referred as 'therapeutic angiogenesis' and infusion of endothelial progenitor cells, implantation of erythroid progenitor cells - erythroid colony forming cells has been shown to induce angiogenesis and increase blood flow [7].

CONCLUSION

This case presentation is to emphasize the varied presentation of the acute aorto-iliac occlusive disease, which presented predominantly with neurological complaints. The present case with predominant neurological manifestations has made the clinicians overlook the symptoms of tenderness in the thigh and feeble arterial pulsations in the lower limb. An acute presentation and short interval between the onset of symptoms and death has further limited the chances of imaging studies and timely therapeutic intervention. The role of early diagnosis cannot be over emphasized.

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