

CASE REPORT

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Acute presentation of Leriche syndrome in United Arab Emirates: A case report

Omar Sherif Askar, Abdel H Noureldin, Satish Chandrasekhar Nair

ABSTRACT

Introduction: Aortoiliac occlusive disease or Leriche syndrome is a serious condition in which patients usually present with the triad of chronic symptoms consisting of claudication of the buttocks and thighs, absent or decreased femoral pulses, and impotence. Our report, first from the gulf region, describes an acute severe presentation of Leriche syndrome which resulted in mortality. This case report helps emergency room physicians in the diagnosis and management of acute presentation of aortoiliac occlusive disease, especially in international settings. **Case Report:** A 32-year-old male presented to our emergency department as a referral from another hospital. He complained of severe back pain and bilateral leg weakness. The patient had two cardiac arrests, first one was in the operating room and died after the second arrest two days later in ICU. **Conclusion:** It is critical that the examining physician place aortoiliac occlusive disease high on the differential during patient assessment, given that the rapidity of diagnosis and further management has significant impact on morbidity and mortality.

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INTRODUCTION

In patients with atherosclerosis, plaque formation commonly occurs in the infrarenal aorta and iliac arteries. Symptoms usually start when the plaques obstruct blood flow or break apart and embolize to more distal blood vessels. Large plaques may cause narrowing of the arterial lumen and reduce blood flow to the extremities. Recognition of the risk factors that predispose to development of arterial lesions is critical and enables the treating physician to prescribe non-operative management that can decrease mortality and morbidity if done in a timely manner [1]. To date, there is no report of aortoiliac occlusive disease (Leriche syndrome) from the middle-east, particularly the Gulf Cooperation Council (GCC) or gulf countries. Conversely, a study from Turkey indicated that Leriche syndrome with diabetes mellitus is more likely to have advanced coronary disease than those without [2].

To the best of our knowledge, our case of Leriche syndrome from the emergency department of Tawam hospital, a 468-bed, ACGME-I accredited, tertiary care academic medical center in the UAE, is the first from the gulf region.

CASE REPORT

A 32-year-old British male presented to our emergency department as a referral from an outlying hospital. He was complaining of severe back pain and bilateral leg weakness. The onset was sudden and started an hour prior to arrival at the referring hospital. Associated symptoms included chest pain, bilateral upper and lower limb tingling, numbness and weakness. Further questioning also revealed a history of impotence for the past few months. Past medical and surgical history was significant for tetralogy of Fallot that was surgically treated at the age of ten years. Vitals on arrival were blood pressure 63/34 mmHg, temperature 35°C, pulse 118 beats/minute, respiratory rate 18/minute and oxygen saturation 100% on room air.

On initial examination the patient was observed to be in severe distress, pale and diaphoretic. Chest auscultation was positive for decreased breath sounds on right upper, middle and lower lobes. The patient was also found to have severe bilateral lower limb weakness (left 2/5), better than right (1/5), pale skin, loss of sensation, and no palpable pulses bilaterally below both femoral arteries. As the patient was showing signs of hypovolemic shock, he was fitted with two large bore IV cannula and started on multiple normal saline boluses and empirically received two units of packed red blood cells (subsequent hemoglobin level 17.5 g/L). He was also covered with a heating blanket to counter hypothermia. A quick, portable antero-posterior view chest X-ray demonstrated right side diffuse parenchymal consolidation with pleural effusion. Arterial blood gas results showed pH 7.056, PCO₂ 46.7 mmHg, PO₂ 91.1 mmHg, bicarbonate 12 mmol/L, base excess -17.4 mmol/L, sodium 139.7 mmol/L, potassium 5.5 mmol/L, calcium 1.19 mmol/L, glucose 4.8 mmol/L, and lactate 10.3 mmol/L. Laboratory results revealed several abnormalities but were most remarkable for an elevated Troponin-I 0.25 ng/mL, B-type natriuretic peptide 1.008 pg/mL, creatinine 164 μmol/L and urea 8.8 mmol/L. Vascular surgery and cardiology services were consulted to evaluate possibilities of aortic dissection or a vaso-occlusive thrombus.

Following stabilization of the patient's blood pressure at 99/83 mmHg, he underwent emergent computed tomography (CT) scan with angiography. Imaging data demonstrated a saddle embolus in the distal aorta at the level of L4, extending into the right and left common iliac arteries (Figures 1 and 2), along with a suspicious embolus in the left renal artery at the mid-section causing an extensive renal infarction, and a splenic infarction at the ventral lower pole. There was also a massive cardiomegaly with dilated right ventricle. These findings confirmed the diagnosis of aortoiliac occlusion. The patient was immediately transferred to the operating theatre by the vascular surgeons, he underwent an embolectomy. The patient had cardiac arrest on the operating table with a cardiac rhythm of pulseless electrical activity (PEA) while waiting for an intensive care unit (ICU) bed to be

prepared. Cardiopulmonary resuscitation (CPR) was performed with successful achievement of return of spontaneous circulation (ROSC).

The patient was transferred to the ICU on light sedation. He was responding to pain. A bedside echocardiogram was performed by the attending cardiologist that demonstrated severe biventricular dysfunction and pulmonary hypertension. The patient unfortunately arrested again in the ICU two days later while on three inotropes. Cardiopulmonary resuscitation was unsuccessful on this occasion and the patient was pronounced dead.

DISCUSSION

Rene Leriche in 1923 described occlusion of the distal aorta and iliac arteries, which includes both acute and chronic forms of the disease [1, 3]. Acute Leriche syndrome most commonly presents with symptoms of

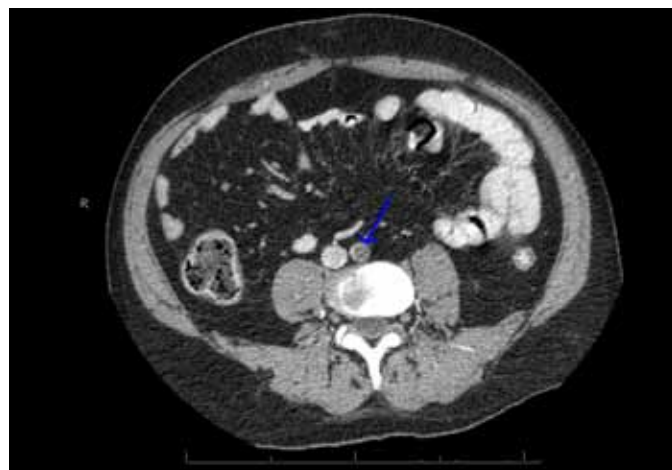


Figure 1: Computed tomography scan after administration of contrast demonstrating complete occlusion of abdominal aorta by the thrombus (arrow indicates occluded aorta).

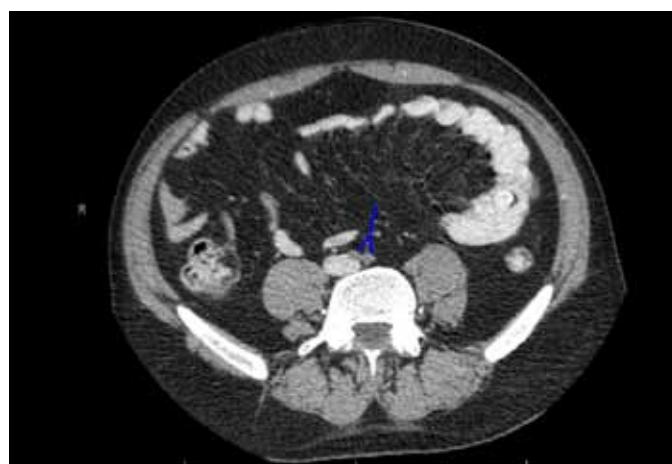


Figure 2: Computed tomography scan after administration of contrast demonstrating extension of the thrombus into right and left common iliac arteries with complete occlusion (arrow indicates common iliac arteries).

acute limb ischemia. Clinical symptoms are dependent upon the level of arterial occlusion [3]. Isolated aortoiliac occlusive disease more commonly occurs in young female patients with a higher incidence of smoking and hypercholesterolemia as associated risk factors that portend a better prognosis. However, patients with a more multilevel pattern of the disease are commonly older males, and are more likely to have diabetes and hypertension as risk factors. These patients tend to have lower life expectancy [4, 5].

This case report illustrates the importance of early identification of patients with relevant risk factors and symptoms of aortic occlusion. An important early warning sign in this case was absence of distal pulses coupled with back pain. There are several similar reported cases which ended in varying outcomes depending on rapidity of diagnosis and treatment initiation [2, 3, 6, 7]. Patients classically present with a history of the following triad of symptoms: claudication, impotence and decreased lower limb pulses. Alternatively, patients may present with a variety of symptoms like leg pain or weakness, loss of sensation in the lower limb and back pain as in this case [3]. Neurologic findings may initially lateralize, delaying the imaging needed to make this diagnosis [6]. Risk factors include hypertension, diabetes mellitus, hyperlipidemia and smoking [7]. Management in this case is usually surgical, aimed at relieving the symptoms and prevention of thrombus propagation. Recent reports advocate the use of ultrasonography for fast detection of aortic occlusion in the emergency department. It is a quick, inexpensive and reliable method for trained providers and can save a lot of time in delivering the definitive treatment to the patient [8].

CONCLUSION

This case of an acute presentation of Leriche syndrome highlights the critical need for early diagnosis and risk factor assessment in determining the outcome. A high index of suspicion is required. Besides, ultrasonography may prove to be an effective tool in the diagnosis of Leriche syndrome in the emergency department that can be used to screen critical patients presenting with unique symptoms, saving valuable time and shortening the interval until the patient receives definitive care.

Author Contributions

Omar Sherif Askar – Conception and design, Acquisition of data, Analysis and interpretation of data, Drafting the article, Critical revision of the article, Final approval of the version to be published

Abdel H Noureldin – Conception and design, Acquisition of data, Analysis and interpretation of data, Drafting the article, Critical revision of the article, Final approval of the version to be published

Satish Chandrasekhar Nair – Conception and design, Acquisition of data, Analysis and interpretation of data, Drafting the article, Critical revision of the article, Final approval of the version to be published

Guarantor

The corresponding author is the guarantor of submission.

Conflict of Interest

Authors declare no conflict of interest.

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