UNUSUAL PRESENTATION OF ACUTE BILATERAL LOWER LIMB ISCHEMIA. (Thrombosis Of Abdominal Aortic Aneurysm – Case Report)

Dr. Abdulrahman El-Kayali MS, FRCS , MD
Dr. Mussaad M.S. Al-Salman FRCSC, FACS

Address correspondence to:

DR. ABDULRAHMAN EL-KAYALI, MS, FRCS
Consultant Vascular Surgeon
Department of Surgery (37)
King Khalid University Hospital
P.O. Box 7805, Riyadh 11472
Saudi Arabia
Tel No. 966 1 467-1273
Fax no. 966 1 467-9493
E-mail address: elkayali@hotmail.com
Abstract:

Acute thrombosis is extremely rare complication of abdominal aortic aneurysm (the most common complication is rupture of the aneurysm). The mechanism probably responsible for acute thrombosis in abdominal aortic aneurysm (AAA) is the state of acute low-flow superimposed on a stenotic atherosclerotic distal vessels. Early diagnosis and prompt surgical revascularization can reduce the mortality rate. This report describes a patient who presented with sudden thrombosis of AAA which was successfully treated with aorto-bifemoral bypass graft.
Introduction:

Acute thrombosis of abdominal aortic aneurysm (AAA) is rare. Its incidence is reported to be 0-6-1.8% of AAA cases.\(^{(1-3)}\) The first case was reported by Shumacker in 1959\(^{(4)}\) and the first successful revascularization was performed by Jannetta and Roberts in 1961.\(^{(5)}\) The majority of patients presented with ischemic symptoms of the lower extremities including pain, coolness, paraesthesia, absent pulses, and mottling of skin. Abdominal pain is an unusual finding in thrombosed AAA.\(^{(3)}\) CT with intravenous contrast is helpful both in diagnosis and showing extent of the thrombus. The recommended management of AAA thrombosis is in-situ replacement with a prosthetic graft.\(^{(3)}\) However, an extra anatomical bypass is recommended in high risk patients.\(^{(2,6)}\) We report this rare syndrome of abdominal aortic aneurysm thrombosis, in which early recognition and prompt intervention has led to successful outcome.
Case Report:

A 72-year-old male patient presented with acute onset of bilateral leg pain and coolness. His previous medical history was significant for chronic lower limbs claudication with long history of smoking. On examination, both lower limbs were cool, with decreased sensation and absent pulses. A small non-tender, non-pulsatile mass was palpated on the abdomen. Electrocardiogram showed left ventricular hypokinesia with normal sinus rhythm and ejection fraction of 55%. Laboratory data including amylase were normal. Computed Tomography (CT) showed infrarenal thrombosed AAA (4.8cm in size) (Fig. 1). Aortogram revealed total infrarenal aortic occlusion (Fig. 2). Common femoral arteries were barely filled apart from small few collaterals. Both superficial femoral arteries were occluded and reconstituted with the popliteal arteries. The patient was heparinized and taken to theatre.

Intraoperatively, the entire infrarenal aorta and common iliac arteries were thrombosed. The aneurysm was repaired with a bifurcated 16 x 8 Dacron graft to the femoral arteries and blood flow was restored to both lower limbs.

His post operative course was uneventful and the ischemic symptoms disappeared. The pathological report showed abdominal aortic aneurysm with fresh thrombus on an old laminated thrombus.
Discussion:

Although, acute thrombosis is a recognized complication of aneurysms in general, it is rare in abdominal aortic aneurysm. Acute thrombosis of AAA is a surgical emergency with mortality rate as high as rupture AAA. Several mechanisms of complete occlusion of the aneurysm have been proposed. 1) Acute low-flow state super-imposed on a stenotic or occluded atherosclerotic distal vascular bed; \(^{7,8}\) (This mechanism explains the acute thrombosis in our case). 2) Thrombo-emboli which are usually of cardiac origin, \(^{7,9}\) may occlude the inflow of the aneurysm, followed by complete obstruction; 3) Fragments of the mural thrombi within the aneurysm may move distally and lead to retrograde thrombosis; \(^{10}\) 4) Hypotension from haemorrhage or an acute cardiac problem can also initiate thrombosis.\(^{7}\) Thrombosis of an abdominal aortic aneurysm can be palpated and visualized by plain roengenogram.\(^{8}\) It is characterized,\(^{8,11}\) as seen in our case, by sudden bilateral lower extremity coolness, pain, mottling of skin, loss of femoral pulsations and neurologic deficits. In some of other previous reports,\(^{12}\) history of claudication has been documented. These aneurysms are no longer pulsatile owing to total occlusion, but the transmitted pulse to the aneurysm could be palpated.\(^{1,4,13}\)

There is no definite relationship between aneurysmal size and the likelihood of thrombosis.\(^{3}\) However in some cases that have been reported, the aneurysm tends to be smaller (similar to our case).\(^{1,12}\) Aneurysmal rupture is still a significant risk, even with complete thrombosis.\(^{14}\) The key to successful management of abdominal aortic aneurysm thrombosis is prompt
diagnosis and appropriate surgery.\textsuperscript{(3,14-16)} Aneurysms are usually not visualized by aortography due to presence of the thrombi, CT with intravenous contrast provides useful information about the AAA and the extent of thrombi.\textsuperscript{(8)} Magnetic resonance angiography may be indicated\textsuperscript{(3)} in stable patients with deteriorating renal function. A preferable method for revascularization of the lower extremities is repair of AAA with an in-situ graft, and considering axillo-bifemoral bypass graft\textsuperscript{(6)} for high risk patients.

\textbf{Conclusion:}

Although the mortality rate of acute thrombosis of AAA is high (50%), this catastrophic event, can be managed successfully if prompt diagnosis is made by high index of suspicion and followed immediate surgical management.
References:


FIGURES:

Figure 1: CT Abdomen showed thrombosed AAA.

Figure 2: Aortogram showed total infrarenal aortic occlusion with no collaterals.
Figure 1: CT Abdomen showed infrarenal thrombosed AAA.
Figure 2: Aortogram showed total infrarenal aortic occlusion with no collaterals.