

UNUSUAL PRESENTATION OF ACUTE BILATERAL LOWER LIMB ISCHEMIA (THROMBOSIS OF ABNORMAL AORTIC ANEURYSM)

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Acute thrombosis of abdominal aortic aneurysm (AAA) is a rare condition. Its incidence is reported to be 0.6%-1.8% of AAA cases.¹⁻³ The first case of thrombosis of AAA was reported by Shumacker in 1959,⁴ and the first successful revascularization was performed by Jannetta and Roberts in 1961.⁵ The majority of thrombosed AAA patients present with ischemic symptoms of the lower extremities, including pain, coolness, paresthesia, absent pulses, and mottling of the skin.

Abdominal pain is an unusual finding in thrombosed AAAs.³ CT with intravenous contrast is helpful both in diagnosis and in showing the 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 led to a 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 limb claudication, as well as a 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. CT scan showed infrarenal thrombosed AAA (4.8 cm in size) (Figure 1). Aortogram revealed total infrarenal aortic occlusion (Figure 2). Common femoral arteries were barely filled apart from a few collaterals. Both superficial femoral arteries were occluded and reconstituted with the popliteal arteries. The patient was heparinized and taken to the operating theater. Intraoperatively, the entire infrarenal aorta and common

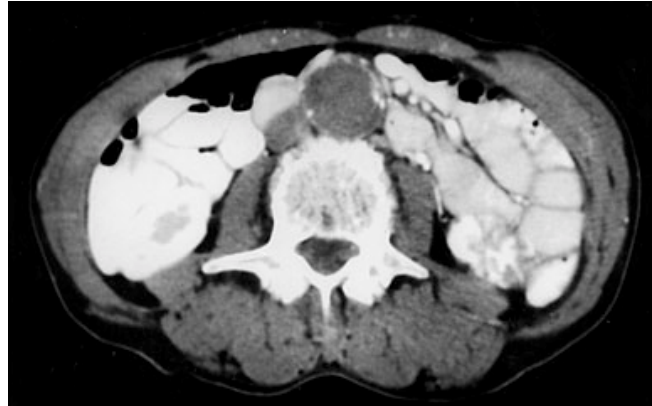


FIGURE 1. CT of abdomen shows thrombosed aortic aneurysm.



FIGURE 2. Aortogram shows total infrarenal aortic occlusion with no collaterals.

iliac arteries were thrombosed. The aneurysm was repaired with a bifurcated 16x8 Dacron graft to the femoral arteries, and blood flow was restored to both lower limbs. The patient's postoperative 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 ruptured AAA.

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Several mechanisms of complete occlusion of the aneurysm have been proposed. They include: 1) acute low-flow state superimposed on a stenotic or occluded athero-sclerotic 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} occluding the inflow of the aneurysm, followed by complete obstruction; 3) fragments of the mural thrombi within the aneurysm moving distally and leading to retrograde thrombosis;¹⁰ and 4) hypotension from hemorrhage or an acute cardiac problem possibly initiating the thrombosis.⁷

Thrombosis of an abdominal aortic aneurysm can be palpated and visualized by plain x-ray.⁸ It is characterized, as seen in our case, by sudden bilateral lower extremity coolness, pain, mottling of skin, loss of femoral pulsations and neurologic deficits.^{8,11} In some previous reports,¹² a 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 tended 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.^{3,14-16}

Aneurysms are usually not visualized by aortography due to presence of the thrombi. CT with intravenous contrast provides useful information on the AAA and the extent of the thrombi.⁸ Magnetic resonance angiography may be indicated³ 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 graft⁶ for high-risk patients.

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 a high index of suspicion and followed immediately by surgical management.

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