

Acute thrombotic occlusion of infrarenal abdominal aorta: A case report

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Abstract

Acute abdominal aortic occlusion is a rare phenomenon that requires rapid diagnosis and intervention. Patients are presented with severe pain and ischemia of the bilateral lower limbs with paresthesia or paraplegia. Acute occlusion can occur via de novo thrombus formation on an atherosclerotic aortic plaque and embolization of a central thrombus. Here we present a case with acute infrarenal abdominal aortic occlusion.

Introduction

Acute abdominal aortic occlusion is a rare phenomenon that requires rapid diagnosis and intervention on account of high mortality rate. Patients are presented with severe pain and ischemia of the bilateral lower limbs with/without paresthesia or paraplegia. Acute occlusion can occur via de novo thrombus formation on an atherosclerotic aortic plaque and embolization of a central thrombus [1]. The Emory study determined that 55% of the patients have sensory or motor deficit [2]. These patients can easily be misdiagnosed as a neurologic disorder, so meticulous physical examination for pulses is essential. Sudden paraplegia is related with the acute occlusion of the Adamkiewicz artery [3]. Acute occlusion with neurologic compromise significantly enhances the mortality rate. Acute aortic occlusion is mostly seen in smokers and patients with dyslipidemia. Risk factors are including atrial fibrillation, cardiomyopathy, valvular heart disease, previous cardiac surgery and myocardial infarction. Atherosclerosis leads to collateralization. Here we present a case with acute infrarenal abdominal aortic occlusion.

Case report

82-year-old woman was presented pain, numbness, paleness on the right lower limb. She had a history of atrial fibrillation, peripheral vascular disease with bilateral claudication intermittents. On physical examination her femoral pulses were absent, right lower limb was cold and pale her femoral pulses were both nonpalpable, especially her right lower limb was cold and pale. A clinical diagnosis of acute aortic occlusion with saddle embolism was suspected and then Absence of the flow on the femoral arteries were confirmed with Doppler Ultrasound (US), and the abdominal contrast enhanced computed tomography (CT) that was subsequently conducted revealed total occlusion of the abdominal aorta with only minor collateral flow on the left lower limb distally (Figure 1). We decided to perform emergency surgery. Under local anesthesia bilateral transfemoral aortoiliac and femoral embolectomies were performed using a balloon-tipped Fogarty catheter (Edwards Lifesciences, Irvine, California, USA), and a large amount of

fresh thrombus material was retrieved from the aorta with satisfactory backbleeding from the limbs during the procedure. Immediately after femoral circulation was restored. After the operation the patient was transferred to intensive care unit. Neither complaint nor complication was occurred during or after the procedure. Four days after the surgery she was discharged from the hospital 4 days after the surgery with complete recovery with oral coumadin therapy.

Discussion

Patients presented with instantaneous severe lower limb pain, coolness, paleness, absence of pulses with or without sensory or



Figure 1. Computed tomography angiography (CTA) view of the thrombus inside the infrarenal abdominal aorta.

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motor deficits are diagnosed as acute thrombotic occlusion of the infrarenal abdominal aorta. Patients with peripheral artery disease (approximately 75% of the cases) might present with relatively mild clinics due to the presence of collaterals. Coronary artery disease, female gender, smoking, diabetes are the risk factors [4]. Conditions such as dehydration, diabetic ketoacidosis, and heart failure slow down the circulation on the stenotic level that can precipitate occlusion [5]. In the presence of accompanying chronic atrial fibrillation with large left atrium, large burden of thrombus which originate from the heart can occlude the aorta. Other causes of large emboli are fungal/bacterial vegetations, prosthetic valve thrombus, primer malignancies of the heart especially atrial myxomas. Despite occlusion can be seen any part of the aorta, infrarenal abdominal aorta, especially the iliac bifurcation level are the most frequent site. Mortality (21%) and morbidity rates are higher. For this reason limb loss is seen in 90% of Patients [6]. Some authors indicates that the morbidity rate exceeds 75% [5]. From the beginning of the symptoms, elapsed time to revascularization can significantly affects the mortality rate. Dossa et al. stated that neurologica deficit is more important rather than ischemia time. Albeit,

acute aortic occlusion can be diagnosed clinically, aortography is the gold standard test. However, Doppler US, contrast-enhanced CT and magnetic resonance angiography (MRA) can also used for the diagnosis [7]. Delay in diagnosis and intervention have a significant affect on morbidity and mortality. Decisions should be made based on the patient's clinic and comorbidities. In order to maintain sufficient circulation early surgical intervention is recommended including bilateral femoral embolectomy, medical therapy with thrombolytics and anticoagulation. however single medical therapy has medical therapy have poor results [1]. Some authors reported that aortic reconstruction should be performed due to the potential risk of propagation of thrombosis at the distal aorta extended to the renal and mesenteric arteries [8]. However, McCullough et al. determined that there was no significant reduction in life expectancy in patients who did not undergo surgery [9]. Thrombus thrombus which are extended to the renal arteries renal arteries, aortic reconstruction or femoral revascularization via aortofemoral bypass should be made promptly. We performed surgery under local anesthesia by using balloon-tipped

fogarty catheters via a transverse arteriotomies arteriotomies to the both both common femoral arteries without any delay. Taking into account current comorbidities, surgery was the best treatment option for the patient and she benefited from treatment. Prompt diagnose and intervention is essential due thrombus burden in the aorta in patients with acute aortic occlusion.

Declaration of conflicting interests

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