

Endovascular treatment of penetrating aortic ulcer: A case report

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ABSTRACT

A 51-year-old male patient was admitted with a penetrating aortic ulcer. Endovascular aortic reconstruction was performed. The revascularization success was satisfactory, and the patient had no pain after the procedure. On control computed tomography angiography, the correct position and functionality of the endovascular stent graft was established without a penetrating ulcer of the aorta.

Keywords: Endovascular aneurysm repair, penetrating atherosclerotic ulcer, syndrome.

Penetrating aortic ulcer (PAU) is a disease which affects the aortic wall with aortic dissection and intramural aortic hematoma and forms the so-called acute aortic syndrome. Penetrating aortic ulcer accounts for about 7.5% of all cases of acute aortic syndrome.^[1]

Penetrating aortic ulcer can be asymptomatic or symptomatic. In symptomatic cases, it presents with chest pain in the form of tearing, splitting, and pulsing, but it can also present with chronic back pain and misdiagnosed as lumbar syndrome.^[2]

Diagnosis of PAU mainly depends on clinical presentation and morphology of the ulcer. It can be treated with conservative treatment with follow-up, open classical surgery and ulcer resection, or endovascular placement of the stent-graft to exclude the ulcer from the circulation.^[3]

Herein, we report a successful case of endovascular treatment of PAU.

CASE REPORT

A 51-year-old male patient was admitted with PAU to the vascular surgery outpatient clinic. The diagnosis of PAU was made using Duplex ultrasonography and confirmed by computed tomography angiography (CTA) of the aortoiliac segment. His medical history revealed low back pain which was previously misdiagnosed as lumbar syndrome. The patient had also several comorbidities including nicotine,

hypertension, hyperlipoproteinemia, ischemic chronic cardiomyopathy with a left ventricular ejection fraction of only 35%, chronic obstructive pulmonary disease, and non-significant stenosis of the internal carotid arteries bilaterally. The CTA (Siemens SOMATOM Sensation 16; Siemens Healthcare GmbH, Erlangen, Germany) showed peripheral arterial occlusive disease with a PAU, 18 mm in diameter, located in the first lumbar vertebra (Figure 1).

A written informed consent was obtained from the patient. Stent grafting with endovascular aneurysm repair (EVAR) using Medtronic was performed at the Radiology Center under general endotracheal anesthesia. Endovascular procedure was performed satisfactory without local and systemic complications, and the procedure lasted for 100 min. The patient was discharged in the postoperative third day with a good mobilization and reduced back pain. Control CTA which was performed at one and six months and at one year revealed a correct stent-graft position without thrombosis and stenosis within the lumen (Figure 2).

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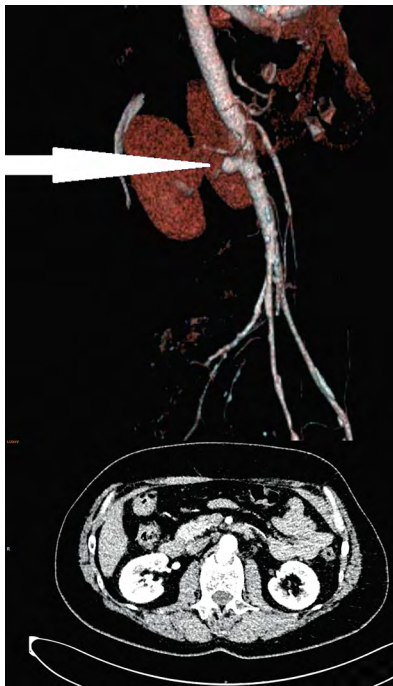


Figure 1. Computed tomography angiography confirming the diagnosis of penetrating aortic ulcer (white arrow).

DISCUSSION

Magnetic resonance angiography has been shown to be most useful method for PAU morphology and intramural hematoma and dissection. However, in symptomatic PAU cases, CTA is also indicated and, as in our case, it is a simple and more available method for a rapid diagnosis.^[2]

The diameter of PAU in our case was 18 mm. In the literature, larger diameters of PAU have been reported. Batt et al.^[3] reported that the course of PAUs was very unpredictable and that the diameter and location of the ulcer did not have a significant effect, and a prompt treatment was needed, due to a high risk of rupture.

In our case, EVAR was performed under general endotracheal anesthesia. Lately, there has been an increase in the number of EVAR procedures under local anesthesia, and local anesthesia has been given priority for lower mortality and morbidity rates and shorter length of intensive care unit and hospital stay.^[4]

The major early complication of EVAR is endoleak. On control CTA, endoleak was not seen in our



Figure 2. Abdominal computed tomography angiography showing correct stent-graft position at one year.

patient. In addition, intra- and postoperative EVAR-related complications include those arising from an femoral access, systemic complications, ischemic complications due to unintended embolization, stenosis, or stent graft occlusion.^[3] In our case, none of these complications were seen.

In conclusion, endovascular stent grafting for the treatment of penetrating aortic ulcer is a very successful treatment method with less complications and it is a good alternative to conventional open surgery in selected cases.

Declaration of conflicting interests

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