

## Giant superior mesenteric artery aneurysm

### *Dev üst mezenter arter anevrizması*

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#### ABSTRACT

Aneurysm of the superior mesenteric artery (SMA) is a rare condition and most of them are symptomatic. Gradually increasing abdominal pain, intestinal ischemic symptoms and rupture are the most common symptoms. We herein report a giant SMA aneurysm detected in a patient with complaint of abdominal discomfort.

**Key words:** Aneurysm, superior mesenteric artery, giant

#### ÖZET

Üst mezenter arter anevrizması (ÜMA) nadir bir durum olup çoğu semptomatiktir. Giderek artan karın ağrısı, barsak iskemisi belirtileri ve yırtılma en sık belirtilerdir. Burada karında rahatsızlık hissi ile başvuran bir hastada saptanan dev üst mezenter arter anevrizması'nı sunuyoruz.

**Anahtar kelimeler:** Anevrizma, üst mezenter arter, dev büyüklük

#### INTRODUCTION

Visceral artery aneurysm (VAA) is a rare condition and exact prevalence is not well documented. It is mainly known from case reports and autopsies. SMA aneurysms are rare and their frequency varies between 3.5 to 8.5% of all VAAs (splenic artery, hepatic artery, SMA, celiac trunk).<sup>1</sup> The first surgical treatment of SMA aneurysm was reported in 1953 by De Bakey and Cooley.<sup>2</sup>

Atherosclerosis and infectious diseases are the most common causes and other causes include; vasculitis, fibrodysplasia and trauma.<sup>3</sup> Most SMA aneurysms are symptomatic. Gradually increasing abdominal pain is the most frequent symptom. Nausea, vomiting, jaundice and gastrointestinal bleeding may occur occasionally and the rupture is the most fatal complication.<sup>4</sup>

Ultrasonography (USG), computerized tomography (CT), magnetic resonance imaging (MRI) and arteriography are used to make the diagnosis and treatment is achieved by surgery or percutaneous techniques.

In this case we report a giant SMA aneurysm diagnosed by aortography which was wrongly diagnosed as abdominal aortic aneurysm by MRI.

#### CASE

A 46 years old male patient admitted our service for coronary angiography and aortography who had diagnosis of abdominal aortic aneurysm by MRI (Figure 1) at one hospital.

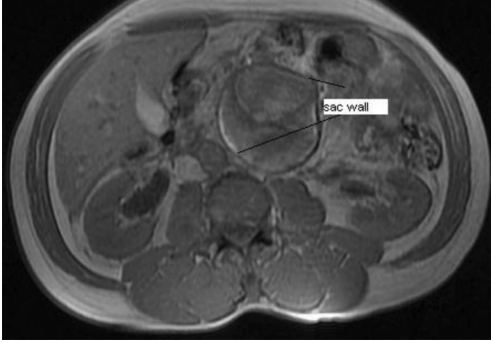
The patient had no major coronary artery diseases risk factors only his father had a history of abdominal aortic aneurysm. In aortography we demonstrated that aneurysmatic dilatation was not arising from aorta but it was arising from SMA, beginning 1-2 cm after the ostia (Figure 2). After the catheterization of the SMA with JR4 catheter aneurysmatic dilatation was demonstrated selectively (Figure 3). It was just beginning after the ostia, 11 cm in diameter and it had partial thrombosed lumen and the calcified wall. There was no aneurysm or stenosis of other vessels. Because of the size, risk of rupture and risk of intestinal ischemia surgical treatment performed. Aneurysmatic sac resected

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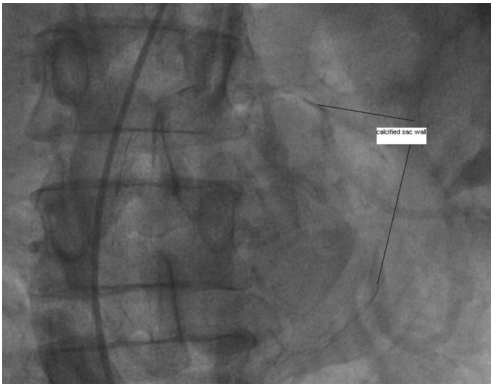
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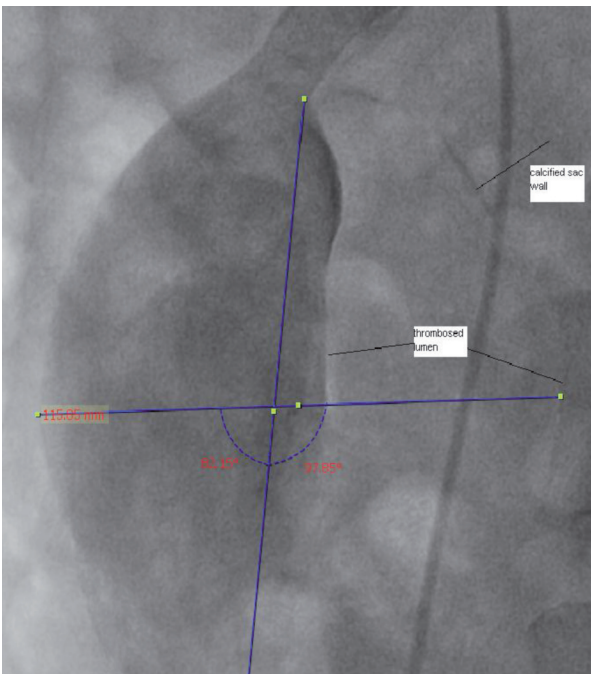
and saphenous vein graft interposition had been applied to the patient. The patient discharged after the hospital stay without no complication.



**Figure 1.** Aneurysmatic dilatation that is supposed to be an aortic aneurysm in MRI



**Figure 2.** The sac demonstrated non-selectively by aortography



**Figure 3.** Aneurysm of SMA selectively demonstrated with JR4 cathater

## DISCUSSION

The exact prevalence of the SMA aneurysm are not known. They are usually diagnosed by USG, CT and MRI.<sup>4</sup> The number of VAA incidentally diagnosed has increased with the increasing use of imaging techniques to study other abdominal pathologies.<sup>5</sup> In our case it was supposed to be an abdominal aortic aneurysm by MRI but it was shown by aortography that it is a SMA aneurysm. In one series mean diameter of the VAA was 2.4 cm<sup>6</sup> but it has been reported that it can reach up to 11 cm in diameter.<sup>7</sup>

VAA are asymptomatic in up to 75% of cases and present a low risk of rupture when compared with aortic aneurysms.<sup>8</sup> In contrast to this knowledge SMA aneurysms are usually symptomatic and carry a risk of rupture as high as 50%<sup>9</sup>

Rupture is the most fatal complication and when occurred mortality rate reaches up to 30%.<sup>9</sup> Beside rupture intestinal ischemia and gastrointestinal bleeding may be seen. In our case the patient had only complaint of abdominal discomfort.

The goal of the therapy is to separate the sac from circulation and to prevent the complications. There is no universally accepted therapy criteria for location or size<sup>10</sup> but there is a consensus that VAAs greater than 2 cm must be treated.<sup>5</sup> Resection of aneurysm plus revascularization, ligation of aneurysm and end organ resection (i.e. splenectomy) are surgical options.<sup>6</sup> Mortality and morbidity is very low in elective surgery (0.5-5%).<sup>10</sup> Paralytic ileus, wound infection, bleeding and acute pancreatitis can be encountered after surgery.<sup>5</sup> Use of percutaneous techniques are gradually increasing and up to 70-95% success rate is reported. Coil or glue embolisation and endovascular stenting are performed percutaneously.<sup>6</sup> The mean complication after percutaneous interventions is end organ infarction and other complications include; embolisation, contrast media nephropathy and access way problems.<sup>10</sup>

Surgery is performed to our patient because of the size, thrombus formation in the sac and the risk of intestinal ischemia. Aneurysmectomy and saphenous graft interposition had been performed.

In conclusion aneurysm of the SMA is a rare condition but rate of complication is high and usually diagnosed incidentally. Once the diagnosis is

made it must be treated if it is bigger than 2 cm in size.

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