

Giant Splenic Artery Aneurysm: CT Findings

Dev Splenik Arter Anevrizması: BT Bulguları

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ABSTRACT

Visceral artery aneurysms are uncommon but important as they frequently present as life-threatening emergencies. Causes and predisposing conditions are female, atherosclerosis, trauma, infection. Although splenic artery aneurysms (SAA) are the frequently occurring aneurysms of the visceral arteries, giant aneurysms of more than 3.0 cm are uncommon.

In this case, we present computed tomography of incidentally found giant SAA (10x8 cm) in 60-year-old woman.

Key Words: Splenic artery, aneurysm, computed tomography

ÖZET

İç organ arter anevrizmaları nadir olmakla birlikte, sıklıkla yaşamı tehdit eden acil bulgularla ortaya çıktıklarından önemlidirler. Kadın cinsiyet, ateroskleroz, travma, infeksiyonlar sebep ve predispozan faktörlerdir. Splenik arter anevrizmaları, iç organ arter anevrizmaları arasında sıklıkla gözükebilmekle birlikte, 3 cm den büyük anevrizmalar nadirdir. Biz bu yazıda, 60 yaşında kadın hastada, 8x10 cm boyutta, insidental saptanan, dev splenik arter anevrizmasının bilgisayarlı tomografi bulgularını sunduk.

Anahtar Kelimeler: Splenik arter, anevrizma, bilgisayarlı tomografi

Introduction

Splenic artery aneurysms (SAA) are the common of the visceral artery aneurysms. They represent the third most common intra-abdominal aneurysms after aortic and iliac aneurysms. The reported incidence of splenic artery aneurysms at autopsy varies, rising from 0.01% to 0, 2% in all age groups to 10,4% in the geriatric population. More than 80% are located in the mid or distal splenic artery (1).

SAA's are rarely over 3 cm in diameter. There have been few cases of giant SAA's reported in the literature (2,3). Ultrasonography (US), Doppler US, Computed tomography (CT), Magnetic resonance imaging (MRI) is radiological modalities that used for diagnosis (4).

We present computed tomography findings of giant SAA that is 8x10 cm in diameter in 60-year-old female.

Case Report

A 60-year-old woman was admitted to hospital presented with a 2-week history of sharp pain in the left upper quadrant on taking deep breaths. There was no history of abdominal trauma or previous surgery. On clinical examination, there

was a mass in the left upper quadrant. The mass was heterogen echogenity on ultrasound examination. Turbulent and pulsatile flow was seen within the lesion on Doppler US examination. CT images of the upper abdomen show round and well defined heterogeneous attenuation mass with contain peripheral calcifications. The central portion of the lesion was hypodense. The lesion situated at splenic hilus and displaced left kidney posteriorly (Figure 1). Diameters of the lesion were 10x8 cm. Enhanced-CT revealed early and marked enhancement central portion of the lesion (Figure 2). Radiological findings were compatible with giant SAA (Figure 3). Operation was suggested to patient but she did not approve. She accepted following program per 3 month.

Discussion

Visceral artery aneurysms are uncommon but important as they frequently present as life-threatening emergencies. Splenic, hepatic, superior mesenteric and celiac arteries are commonly affected. Splenic artery aneurysms (SAA) are most common visceral artery aneurysm. The incidence of splenic artery aneurysm at autopsy series is 0.02- 0.1% in all age groups and rises to 10.4%



Fig. 1. Nonenhanced CT showed giant low-density mass with peripheral calcification (Arrows).

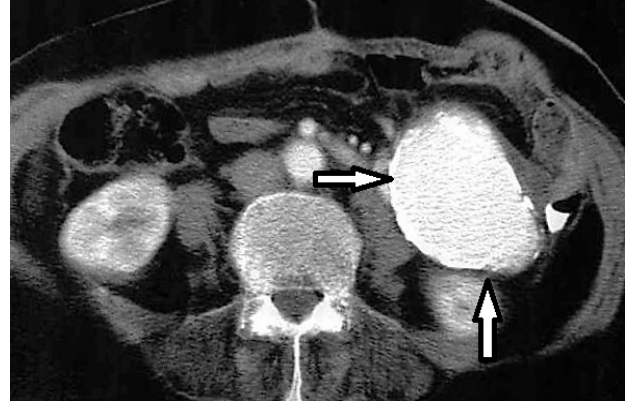


Fig. 2. On enhanced CT, early and marked enhancement was seen in the aneurysm of the splenic artery (Arrows).

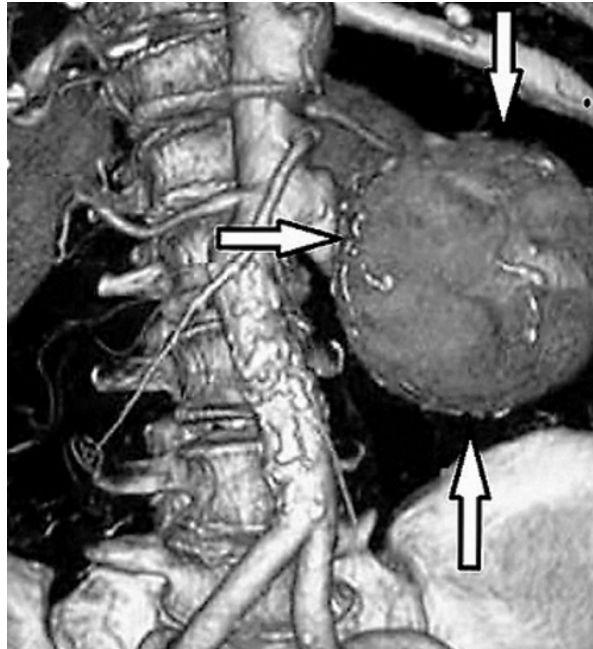


Fig. 3. Volume rendering CT showed giant aneurysm of the splenic artery (Arrows).

over the age of 60 years. Although SAA are frequently occurring aneurysms of the visceral arteries, giant aneurysms of more than 3.0 cm are uncommon (1).

Causes and predisposing conditions are portal hypertension, pregnancy, multiparity, female sex, pancreatitis, erosion of a vessel wall (pseudoaneurysm), penetrating gastric ulcer, mycotic aneurysm, atherosclerosis, trauma, infection.

The main complication of SAA is rupture, and it has been reported in 2% to 10% of cases. The true risk is probably closer to 2% (4). The smallest SAA known to have ruptured is measured 2 cm.

Reported mortality rates after rupture vary considerably but are estimated at 20% to 36%. Among the giant SAA reviewed, 25% of aneurysms ruptured (5).

Ultrasonography (US) and Doppler US show anechoic mass with or without mural thrombus, turbulent and pulsatile flow. Computed tomography (CT) shows low-density mass with or without peripheral calcification. Contrast enhanced CT shows marked enhancement in the aneurysm sac. CT also may help showing contrast extravasation related to rupture. Magnetic resonance imaging (MRI) shows low signal intensity corresponding to aneurysmal wall, while

the signal intensity within the aneurysm depends on the presence and the velocity of the flowing blood as well as the presence and age of thrombus. On the enhanced MRI early enhancement is seen (6).

Treatment of these large aneurysms is challenging, and although an open surgical approach has been the standard of care in the past, minimally invasive endovascular approaches should be further investigated. The favored method of treatment at present is embolization. However, there is little follow-up information for this method and recurrence is a possible long-term hazard. When embolization is difficult or contraindicated by the proximity of the aneurysm to the spleen (with risk of splenic infarction) the options are open or laparoscopic surgery with ligation of the splenic artery, excision of the aneurysm with anastomosis of the artery or splenectomy with removal of the aneurysm (5,7,8).

In conclusion; giant SAA are a rare clinical entity. They differ from usual SAA in which they usually present their location on the splenic artery and their clinical presentation. Treatment of these large aneurysms is challenging, and although an open surgical approach has been the standard of care in the past, minimally invasive endovascular approaches should be further investigated (6,9).

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