

Case Report

Incidentally detected asymptomatic splenic artery aneurysm

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Abstract

Splenic artery aneurysm (SpAA) is the most common among visceral artery aneurysms and accounts for approximately 60% of visceral artery aneurysms. Generally, 80% of cases with SpAA are asymptomatic. The most common symptoms are abdominal pain, nausea and intra-abdominal bleeding due to aneurysm rupture, hypotension and hemorrhagic shock. The most serious complication is aneurysm rupture and related complications. The most useful method for diagnosis is abdominal CT angiographic imaging. The treatment is mostly surgical, but in appropriate cases, endovascular intervention can also be applied. Medical follow-up can be performed in true splenic artery aneurysms less than 2 cm in diameter. In this article, we wanted to present a fifty-two-year-old female patient with an asymptomatic splenic artery aneurysm that was detected incidentally.

Keywords: Splenic artery, aneurysm, saccular, visceral aneurysm, asymptomatic

INTRODUCTION

Splenic artery, which is the branch of the celiac trunk with the largest diameter, attracts attention with its tortuosity. It extends horizontally behind the stomach to the left. The branches of the splenic artery are the short gastric artery, posterior gastric artery and pancreatic branch [1]. Splenic artery aneurysm (SpAA) is the most common among visceral artery aneurysms and accounts for approximately 60% of visceral artery aneurysms. Its estimated prevalence is 0.8% [2]. It is the third most common aneurysm after the aorta and iliac artery [3]. Generally, 80% of cases with SpAA are asymptomatic. The most common symptoms are abdominal pain, nausea, and acute abdomen due to aneurysm rupture [3,4]. The most serious complication is aneurysm rupture, which occurs in 25% [2]. Bleeding due to rupture can lead to hypotension and even death if not intervened. The mortality rate due to aneurysm rupture is 8.5% in the literature [2]. The most useful examination in diagnosis is abdominal CT angiography [3,4]. Treatment is mostly surgical, but endovascular intervention can also be applied in appropriate cases. Medical follow-up can

be performed in aneurysms that are less than 2 cm in diameter. [4]. In this article, we wanted to present a fifty-two-year-old female patient with an asymptomatic SpAA that was detected incidentally.

CASE REPORT

A fifty-two-year-old female patient was admitted for SpAA, which was detected incidentally on CT angiography taken at an external health center where she went to because of her cough complaint. The patient appeared obese and her body mass index was 36.3 kg/m². In her anamnesis, it was learned that she had an open cholecystectomy 33 years ago and that she had no other comorbidities other than asthma and restless legs syndrome. There was no cardiovascular problem on physical examination. The abdomen was comfortable and bowel sounds were normal. In the patient's CT angiography, there was a non-thrombosed, 3x2.7 cm (SpAA) with a calcified wall in the posterior part of the tail of the pancreas (Figure 1A, 1B, 1C). A surgical operation was planned for the patient, information was given about the procedure to be performed, and consent for the surgery was obtained.

CITATION

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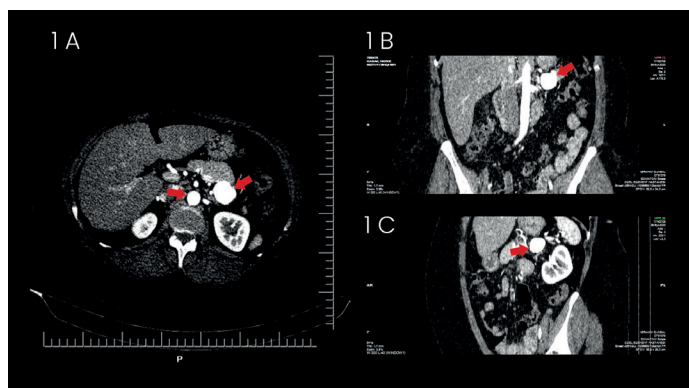


Figure 1. 1A. Giant Splenic Artery Aneurysm (red arrow), abdominal aorta (red arrow), 1B. Giant Splenic Artery Aneurysm (red arrow), 1C. Giant Splenic Artery Aneurysm (red arrow)

The aneurysm sac was reached through median laparotomy under general anesthesia. It was adherent to the pancreas in the posterior region. Adherents were carefully dissected. The splenic artery was suspended from the proximal and distal regions of the aneurysm sac with a vascular tape. Intravenous 5000 units of unfractionated heparin was administered. By placing a clamp on the proximal and distal regions of the splenic artery, the aneurysm was completely resected and primary repaired end-to-end (Figure 2A,2B). The operation was completed without any problems. The patient did not have any postoperative problems. She was discharged on the 5th day with antiplatelet treatment administered.

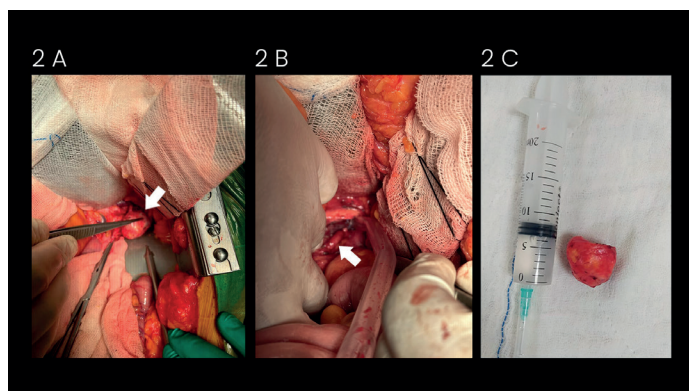


Figure 2. 2A. Intraoperative view of giant Splenic Artery Aneurysm (white arrow), 2B. Intraoperative view of the end-to-end anastomosis of Splenic Artery (white arrow), 2C. Image of resected aneurysm

DISCUSSION

Risk factors identified for the etiology of SpAA include atherosclerosis, hypertension, diabetes mellitus, mycotic infections, inflammation of the focal arterial wall, polyarteritis nodosa, Stanford Type B Aortic dissection, pancreatitis, hypersplenism, portal hypertension, liver transplantation, pregnancy, and blunt abdominal trauma. [3-5]. SpAA is more

common in women, and is most commonly observed in the 5th and 6th decades [3]. Aneurysm usually occurs in the middle and distal segments of the splenic artery and has a single and saccular structure [4]. In our case, the aneurysm was in a single saccular form and developed in the middle part of the splenic artery. Our case was female and 52 years old and was compatible with the literature. The most dangerous complications in these aneurysms are rupture and bleeding. Its mortality is around 8.5%. The patients with the highest risk of rupture are young pregnant women [4]. CT or MR angiography is the gold standard in these patients. The location and morphology of the aneurysm can be detected if there are other accompanying pathologies. In our case, the diagnosis was made by CT angiography. If the aneurysm diameter in SpAA is more than 2 cm or there is a pseudoaneurysm, surgical treatment or endovascular intervention is recommended in suitable patients, regardless of its diameter (since the risk of rupture is high). The most ideal treatment is to eliminate the aneurysm by preserving the splenic artery flow and spleen [4]. In recent years, advances in the endovascular field have made it possible to close the aneurysm sac with a coil or deactivate the aneurysm by placing a stent, as SpAA is less invasive. Especially in high-risk patients with comorbidities or acute bleeding, arterial embolization using a coil can stop bleeding in a short time and deactivate the aneurysm [3-5]. Treatment of splenic AA varies depending on the location of the aneurysm in the artery. For example, if the aneurysm is distal, standard treatment may be aneurysmectomy with splenectomy, or the aneurysm can be closed by coil embolization, covered with stent placement, or thrombin injection [3-5]. However, in the presence of a tortuous splenic artery, it may not be possible to move the stent graft to the aneurysm. In these cases, surgical treatment is more appropriate [2,3,6]. In our case, we performed aneurysmectomy + end-to-end primary artery repair due to the tortuous splenic artery.

CONCLUSION

Even if SpAAs are asymptomatic, these aneurysms should be followed carefully due to the risk of rupture. If the aneurysm diameter is larger than 2 cm or there is a pseudoaneurysm, it must be treated regardless of its diameter (as there is a risk of rupture). Successful treatment is possible with surgical or endovascular methods.

Patient Consent for Publication: Written informed consent was obtained from the patient for publication of this case report and accompanying images.

Data Sharing Statement: The data that support the findings of this study are available from the corresponding author upon reasonable request.

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