

Research Journal of Pharmaceutical, Biological and Chemical Sciences

Splenic Artery Embolization for an Unusual Large Splenic Artery Aneurysm Located Near the Splenic Hilum.

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ABSTRACT

Splenic arterial interventions are increasingly used to treat various medical disorders and, have substituted surgery in many situations. Splenic artery embolization is often performed to treat posttraumatic splenic injuries and to improve hematologic parameters (ie, to treat pancytopenia, thrombocytopenia, leukopenia, or anemia) in patients with hypersplenism and also to exclude splenic artery aneurysms from the normal vessel lumen and thereby prevent aneurysm rupture. Here we had a case of large Splenic artery aneurysm located near the hilum of spleen which had developed after a blunt abdominal injury. Embolisation with coils have shown good end result and the patient had good post procedure course.

Keywords: Splenectomy, abdomen pain, Weight loss

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Case Report

A 34-year-old male patient presented with a three-month history of intermittent abdominal pain and a swelling at left side of abdomen and weight loss. The patient had a previous history of Road traffic accident at age 28 where he sustained some minor injuries after falling from a bike. Medical history and past surgical history is insignificant. He was found to be Non hypertensive and pulse rate of 84 bpm. On examination the abdomen was soft with no guarding or tenderness. A soft 3 cm x 3 cm compressible, non pulsatile swelling is seen at epigastium. Systemic examination was unremarkable. The patient's blood picture revealed Low haemoglobin (9 gm/dl) , normal leucocyte counts, a raised amylase (178 u/L, normal is < 110) and an also elevation in γ -glutamyl transferase (201 u/L, normal 12–48). Chest and erect Abdominal radiographs were both unremarkable. An ultrasound scan of the abdomen was performed. Ultrasound revealed a lesion near the splenic hilum from the splenic artery. Computerized tomography (CT) of the abdomen revealed normal liver size and texture. . It showed a aneurysm in the splenic artery located near the hilums and closely related to the body of the pancreas. The splenic artery aneurysm (SAA) measuring 3.5 x 4 cm in diameter.

Treatment Given: As the CT scan showed a clear SAA, first a opinion was taken from surgeon. Surgeon has adviced splenectomy. As the patient is young, we thought to preserve his spleen. We opted for conventional angiography (Figure 1) to look for any collaterals and also plan a splenic artery coil Embolisation. MReye Embolization coils, both 5 mm and 8 mm(Cook) were used to complete the embolization procedure (Figure 2,3). Post procedure CT abdomen (Figure 4) showed water shed area of infarction in different areas of spleen. Some normal areas are left behind in the spleen which is the advantage we had over the surgical splenectomy.

Figure 1: Note the angiographic picture of large splenic artery aneurysm located near the hilum of spleen.



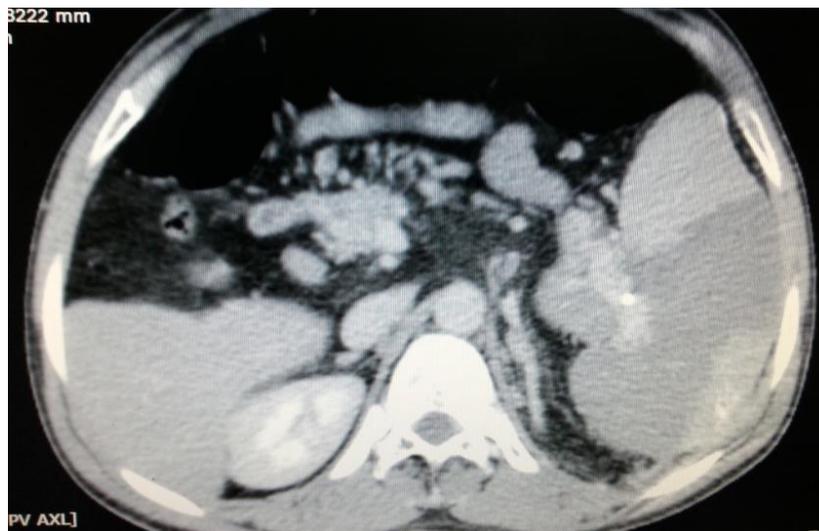
Figure 2: Embolization with 2 coils (8mm size) distal to the aneurysm was done first.



Figure 3: Embolization of the splenic artery was done proximally with 2 coils (8mm size). Note the final flow have slowed significantly through the aneurysm. In the picture you can also see the displaced coil inside the aneurysm cavity.



Figure 4: post embolisation note the infarcted dark grey zone in the middle of spleen. The anterior, superior part is spared due to a separate collateral arterial supply.



DISCUSSION

The splenic artery is the third most common site of intra abdominal aneurysms after aneurysms of the abdominal aorta and the iliac arteries. The true prevalence is unknown, but it keeps on varying, from < 1% to as high as 10.4%. Although they were once thought to be rare, with wider use of Radiological imaging, splenic artery aneurysms are being diagnosed with increasing frequency as incidental findings [1-4].

The etiology of Splenic artery aneurysm (SAA) remains unknown, but it has been associated with hypertension, portal hypertension, cirrhosis, liver transplantation, and pregnancy. Less common conditions include arteritis, collagen vascular disease, arterial fibrodysplasia and inflammatory and infectious disorders [5-7]. In contrast to aneurysms of larger vessels such as the aorta, atherosclerosis is not considered to be the underlying cause.

Clinically, most SAA are asymptomatic. A large series from Mayo Clinic showed that 97.5% of non ruptured SAA were asymptomatic [5]. Earlier reports suggest that the risk of aneurysm rupture was 10%. However, more recent data suggest rates closer to 2-3%. And the frequency is increased with pregnancy, portal hypertension and after liver transplantation. [8-11]

Treatment of symptomatic SAA should be performed. In addition, several high-risk groups should also be considered, even if asymptomatic. No consensus has been given regarding intervention in an asymptomatic patient. The smallest ruptured aneurysm over a 4-year experience at the Mayo Clinic is 2 cm's. so, the recommendations are to treat asymptomatic aneurysms greater than 2 cm's in patients with some operative risk and if life expectancy was greater than 2 years [1, 5]. Because of the relative rarity of SAAs, indications for intervention are not standardized. However over the last few decades the transcatheter coil embolization has been gaining favour. Although success rates of approximately 85% are lower than those of direct surgical intervention, associated operative morbidity and mortality rates are significantly reduced [12]. There are still multiple endovascular techniques for endoluminal exclusion of SAAs. The use of different occlusive agents has been described in published literature, including the Amplatzer vascular plug, bare stents, n-butyl cyanoacrylate (n-BCA), coils, and covered stents. These endovascular procedures also have reported success rates of 70-85% [13,14]. Hence the present case is a large splenic artery aneurysm which was treated by coil embolization; instead for surgery with a less cost burden and less physical,mental trauma to the patient. The post followup 1 month was uneventfull and the patient showed good improved in appetite and weight.

CONCLUSION

There are multiple endovascular approaches for the treatment of splenic artery aneurysms. Coil embolisation is an effective and safe alternative procedure even for larger aneurysms located near the splenic hilum. It has become a reliable procedure with high technical success and low periprocedural morbidity.

ACKNOWLEDGEMENTS

I sincerely thank the cathlab staff and my resident colleagues, other professors in complete the procedure and collect the necessary data or information.

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