CASE REPORT

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An unusual case of hematemesis in a case of cirrhosis with portal hypertension- in a realm of double jeopardy

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ABSTRACT

Portal hypertension in cirrhotic patients causes hematemesis usually due to rupture of esophageal varices. At the same time portal hypertension is also a risk factor for development of splenic artery aneurysm (SAA). One of the potential complications of SAA is erosion and ruptureinto the stomach leading to intra gastric hemorrhage and, or intra peritoneal hemorrhage. We report a case of a 60 year old male patient, who had cirrhosis of liver with portal hypertension and presented to us with hematemesis. During therapeutic endoscopic band ligation, a pulsatile mass along the posterior wall of stomach was seen, which was confirmed as splenic artery aneurysm in CECT of abdomen. To prevent further potential risk of hemorrhage a coiling embolization was performed.

Keywords: portal hypertension, cirrhosis, SAA, coiling, embolization

1. INTRODUCTION

Splenic artery aneurysms are the third most common true aneurysm that occurs in the abdomen following aneurysms of the aortic and iliac arteries (Trastek et al., 1982). In women (female: male = 4.1) and in the 6th decade of life, splenic artery aneurysms are more frequent, with 80% occurring in patients over the age of 50 years (Abbas et al., 2002). Splenic aneurysms of the artery include intra-abdominal aneurysms involving other visceral (3%) and renal (14%) arteries (Dave et al., 2000). A majority of patients suffer from multiple aneurysms (Dave et al., 2000). Splenic aneurysms are typically solitary, saccular in shape and found often in a distal third of the artery, bifurcation and splenic hilum (Dave et al., 2000). False splenic artery aneurysms are rare but can occur in particular in conjunction with pancreatitis and as a result of instrumentation.

True splenic aneurysms of the artery are generally associated with increased flow conditions such as pregnancy (especially multiparty), arterial venous fistulas and malformations, and portal hypertension (Yadav et al., 2007; Agrawal et al., 2009). It has been suggested that increased blood flow through the splenic artery lead to irreversible damage of the tunica media predisposing to aneurysm formation; muscle atrophy and calcification are secondary (Lowry et al., 1986). In patients with liver cirrhosis and portal hypertension, the prevalence of splenic artery aneurysm is 7 to 20 % (Berceli, 1986). Due to the large portosystemic shunt, 8 to 13 per cent of patients awaiting and following liver transplant develop splenic artery aneurysm (Berceli, 1986). Patients with symptomatic aneurysm of the splenic artery present at the midepigastric or left upper quadrant with nausea and vague abdominal pain. This may be due to the pain of the left shoulder associated with diaphragm irritation. Nearly half of splenic-artery aneurysm patients have mild splenomegaly (Nishida et al., 1986). The "double rupture syndrome" is the typical appearance of ruptured splenic artery aneurysm. Initial rupture of splenic artery aneurysm is associated with extreme abdominal pain and initial hemodynamic dysfunction, which is compensated for and accompanied by duration of relative normalization. This latent period is due to containment rupture of the splenic artery aneurysm within the lesser sac and tamponade. The lesser sac can give way if untreated, leading to free breakup into the peritoneal cavity with recurrent hemodynamic instability.

2. CASE REPORT

A 57 year old male presented with the complaints offour episodes of hematemesis and severe dyspeptic symptoms and melaenaover3 months.He had no history of loose stools, chest pain, syncope, fever and cough. On examination, his blood pressure was 100/70 mm hg, rightarm supine position; pulse was 104 beats/min, regular. There was no icterus, clubbing, lymphadenopathy. CVS and RS examination was normal. Per Abdomen examination revealed– hepatosplenomegaly without free fluid in peritoneal cavity. CNSexamination revealed no neurological deficit. Routine investigations revealed Hb – 6.8 gm%, WBC – 2900 / cu.mm, Platelet count was 0.55 lakhs/cu.mm, Urea – 29 mg/dl, creatinine – 1.8. mg/dl, Sodium – 147 mEq/lit, Potassium – 4.1 mEq/lit. Total protein was 5.9 g/dl, serum albumin-2.8 g/dl. Stool for occult blood positive amylase and lipase were within normal limits. Upper GI endoscopy showed pulsatile bulge at the posterior wall of the gastric antrum, portal vein dilatation and esophageal varices (fig-1).

In view of pulsatile bulge at the posterior wall of gastric antrum CECT Abdomen was done. It revealed, 2 splenic artery aneurysms, one large aneurysm measuring 33 × 31 × 25 mm which was located distal to medial part of splenic artery. The aneurysm showed tram like calcifications, another aneurysm was located posterior to stomach eroding the posterior stomach wall (fig.2 a, b).

Patient was started on Injection Terlipressin for 5 days; 2 mg every 4 h for the first 3 days, followed by 1 mg every 4 h on the last 2 days. Two units packed red cells were administered for anemia. Endoscopic variceal band ligation was done for the esophageal varices (Fig. 1 f) and for the splenic artery aneurysm, coil embolization was performed via right femoral artery using coil concerto eV3 coil 20mm x 50 cm, concerto eV3 coil 16mm x 40 cm and muronesler embolization coil 10mm x 14 cm. Check angiography revealed occlusion of splenic artery aneurysm (Fig. 3 a,b,c).

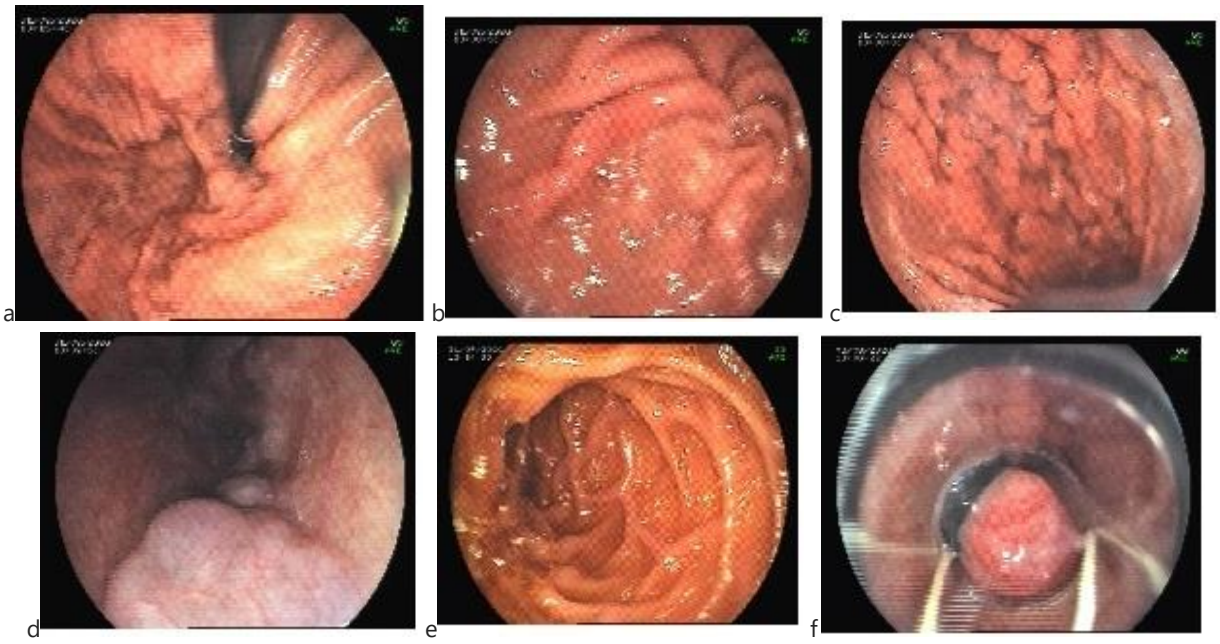

Figure 1 a, b, c, d, e and f Showing Upper GI Endoscopy s/o pulsatile bulge at the posterior wall of the gastric antrum, andesophageal varices and Fig. 1f Showing ligation of Endoscopic band.

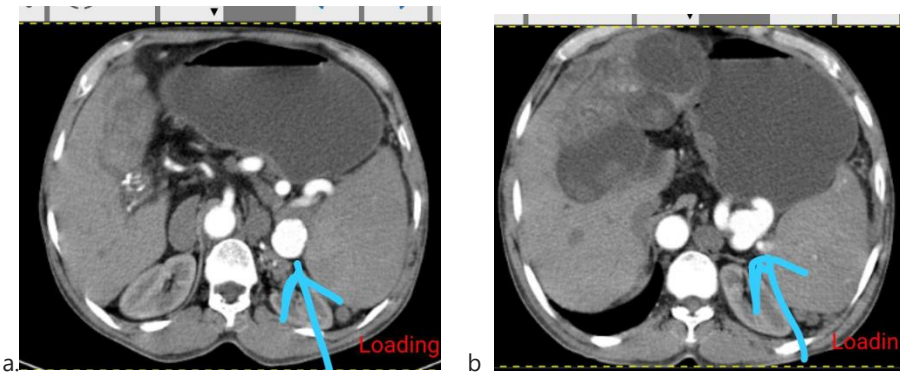

Figure 2 a, barrow showing 2 splenic artery aneurysms, one large aneurysm measuring 33 × 31 × 25 mm which was located distal to medial part of splenic artery. The aneurysm showed tram like calcifications, another aneurysm was located posterior to stomach eroding the posterior stomach wall.

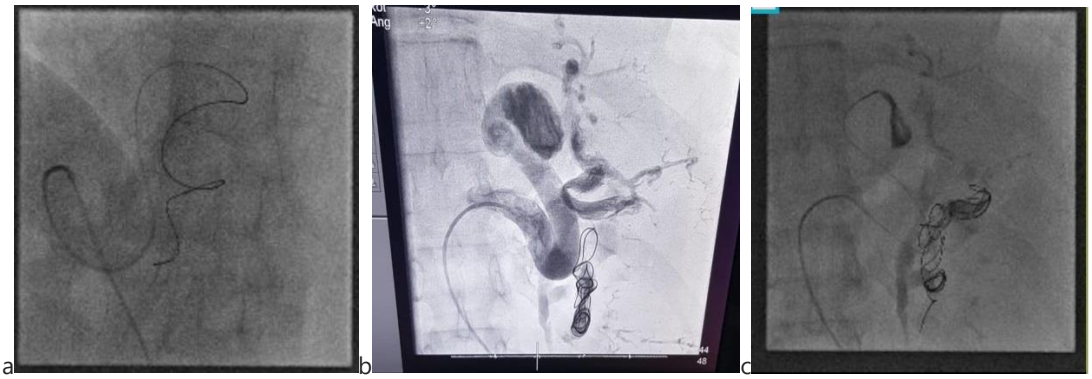

Figure 3 a, b and c- Showing splenic artery cannulated coiling 4F cobra catheter. Coil embolization of splenic artery aneurysm done using coil concerto eV3 coil 20mm x 50 cm , concerto eV3 coil 16mm x 40 cm and muronesler embolization coil 10mm x 14 cm. Check angiography revealed occlusion of splenic artery aneurysm.

3. DISCUSSION

Splenic artery aneurisms (SAA) are typically observed by mistake in emergency exploratory laparotomies performed for hemoperitoneum, apart from the SAAs found in various imaging studies. Upper abdominal pain is the most frequently recorded symptom of SAA rupture (De Silva et al., 2017). The clinical presentation of unbroken SAA is generally non-specific and variable (De Silva et al., 2017). Our patient had extreme dyspeptic symptoms for 3 months. Full relief of dyspepsia following coil embolization of the aneurysm and the consistently normal endoscopic presentation of the gastric mucosa indicated that his chronic dyspeptic symptoms were due to aneurysm itself. Rupture risk for true aneurysms is very low (2 to 3 %) but alarmingly high for pseudoaneurysms (37 to 47 percent) with mortality of 90 percent (De Silva et al., 2017). Spontaneous rupture of true SAAs occurs more with aneurysms greater than 2 cm in diameter and with aneurysms in pregnant women (Abbas et al., 2002). Bleeding in the stomach is rare with true SAAs. Some cases of possible true SAAs with intragastric bleeding were reported, but there was no evidence of histological evidence that they are true aneurysms (De Silva et al., 2017). Unlike true SAAs, intragastric bleeding is a common feature of splenic artery pseudoaneurysms (De Silva et al., 2017). O'Brien et al. documented a rare case of splenic artery pseudoaneurysm fistulating in the transverse colon (O'Brien et al., 2016).

Double rupture is a well-known phenomenon of true SAA intraperitoneal bleeding, with initial, brief, arrested bleeding in the lower sac followed by massive peritoneal cavity bleeding. In our case chronic intragastric bleeding was found over a long period of time. Detecting a pulsatile bulge at the back wall of the stomach improved the structure of contrast-enhanced computed tomography, in this case. The use of endovascular procedures to embolize aneurysms has gained popularity over the last decade due to low morbidity. Transcatheter embolization can be done using gelatin gels, steel coils, detachable balloons, or glue material. Patients with splenic artery pseudoaneurysm involving adjacent organ surgery should be considered a standard therapy to eliminate underlying etiology and avoid further morbidity. Endovascular procedures can be a safe choice in cases where there is no coexisting pathology or in patients with a high risk of surgery.

Our patient had hematemesis primarily due to esophageal varices which was treated by band ligation. But in view of the pulsatile mass in endoscopic examination and the CECT evidence of SAA eroding posterior wall of the stomach, coiling of the aneurysm was done as a prophylactic approach to prevent gastric/ intraperitoneal hemorrhage.

4. CONCLUSIONS

Splenic artery aneurysm is a rare cause of upper GI bleeding. Upper gastrointestinal hemorrhage from splenic artery aneurysm can have a relapse course offering false negative endoscopy and ultrasound tests if performed between active bleeding episodes. In these cases, immediate CT angiography is useful for diagnosing and administering proper therapy prior to a recurrence.

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Conflict of Interest

The authors declare that there are no conflicts of interests.

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Informed consent

Written & Oral informed consent was obtained from all individual participants included in the study.

Data availability

All data associated with this study are present in the paper.

Peer-review

External peer-review was done through double-blind method.

REFERENCES AND NOTES

1. Abbas MA, Stone WM, Fowl RJ, et al. Splenic artery aneurysms: two decades experience at Mayo clinic. Ann Vasc Surg 2002; 16:442.
2. Abbas MA, Stone WM, Fowl RJ, Gloviczki P, Oldenburg WA, Pairolero PC, et al. Splenic artery aneurysms: two decades experience at Mayo clinic. Ann Vasc Surg. 2002;16(4):442–9.
3. Agrawal A, Whitehouse R, Johnson RW, Augustine T. Giant splenic artery aneurysm associated with arteriovenous malformation. J Vasc Surg 2006; 44:1345.
4. Berceli SA. Hepatic and splenic artery aneurysms. Semin Vasc Surg 2005; 18:196.
5. Dave SP, Reis ED, Hossain A, et al. Splenic artery aneurysm in the 1990s. Ann Vasc Surg 2000; 14:223.
6. De Silva WSL, Gamlaksha DS, Jayasekara DP, Rajamanthri SD. A splenic artery aneurysm presenting with multiple episodes of upper gastrointestinal bleeding: a case report. J Med Case Rep. 2017;11(1):123.
7. Lowry SM, O'Dea TP, Gallagher DI, Mozenter R. Splenic artery aneurysm rupture: the seventh instance of maternal and fetal survival. Obstet Gynecol 1986; 67:291.
8. Nishida O, Moriyasu F, Nakamura T, et al. Hemodynamics of splenic artery aneurysm. Gastroenterology 1986; 90:1042.
9. O'Brien J, Muscara F, Farghal A, Shaikh I. Haematochezia from a Splenic Artery Pseudoaneurysm Communicating with Transverse Colon: A Case Report and Literature Review. Case Rep Vasc Med. 2016;2016:8461501
10. Tekola BD, Arner DM, Behm BW. Coil migration after transarterial coil embolization of a splenic artery pseudoaneurysm. Case Rep Gastroenterol. 2013;7(3):487–91
11. Trastek VF, Pairolero PC, Joyce JW, et al. Splenic artery aneurysms. Surgery 1982; 91:694.
12. Yadav R, Tiwari MK, Mathur RM, Verma AK. Unusually giant splenic artery and vein aneurysm with arteriovenous fistula with hypersplenism in a nulliparous woman. Interact Cardiovasc Thorac Surg 2009; 8:384.