

A Rare Presentation of Upper Gastrointestinal Bleeding – Duodenal Varices

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Abstract: Ectopic varices are a rare presentation of upper gastrointestinal bleeding. However, among all ectopic varices site, duodenal varices are one of the common sites for ectopic variceal bleeding. This case report discussion will focus on the management of duodenal varices..

Keywords: angiography, duodenal varices, endoscopy, pharmacology, surgery

I. Introduction

Varix is defined as abnormally dilated and tortuous blood or lymphatic vessel. ¹ Bleeding from varices source represents up to 14% of all upper gastrointestinal bleed. Although commonly varices occur at gastroesophageal region, it can also occur throughout the whole gastrointestinal tract. ²

Ectopic varices were first described in year 1931 by Alberti via his first literature review based on radiological findings on duodenal varices. ³ Ectopic varices account up to 5% of all variceal bleed. Even though ectopic varices bleed is rare, it was quoted that the prognosis is poor (40% mortality rate) as it is difficult to detect and treat. ⁴ Different areas of ectopic varices are duodenum, jejunum, ileum, colon, rectum, peristomal, biliary tree, peritoneum, bare area of liver, umbilicus, splenic ligament, urinary bladder, right diaphragm, ovary, vagina and testis. ⁵

II. Case Report

47-year-old Malay gentleman presented to Hospital Seberang Jaya with passing out blackish stool alternating with fresh per rectal bleed for six days duration. The stool describes as soft and foul smelling. He also had an episode of vomiting fresh blood about half cup in amount four day before admission. He was a chronic NSAIDs and traditional medicine user for his left knee pain for past 10 years. He has significant anaemic symptoms - lethargy, shortness of breath and giddiness. He is diabetic and a chronic smoker. On examination, he was pale, not jaundiced, tachycardic (100-120 beats per minute) and tachypnoeic (28-30 breaths per minute). His blood pressure was maintained in normal range (110-130mmHg/ 60-90mmHg). There were no stigmata of chronic liver disease. On abdominal examination, there was significant tenderness on palpation at epigastric region but abdomen remain soft. There was no abdominal mass or organomegaly. His per rectal examination showed fresh malaena with no per rectal mass felt. His blood investigation result showed microcytic hypochromic anaemia with haemoglobin level of 7.9g/dl. He also has thrombocytopenia with platelets level of 82. His coagulation profile was deranged with INR of 1.9. Otherwise his liver and renal profile was within normal range.

Then he was subjected for an emergency OGDS. The findings were : esophageal varices grade 2 (about 1/3 of the lumen were occupied by dilated tortuous vein). However, there were no stigmata of recent bleed and banding done. The body of stomach was filled with blood and with no fundal varix. There was spurting bulging tortuous lesion over the mucosa of duodenum. It was notified as duodenal varices and sclerotherapy (Histoarcl) injection was performed and the bleeding stopped. He was started on somatostatin infusion for three days, IV Esomeprazole 40mg twice daily, antibiotics and was given blood transfusion. He was further investigated for the cause of his portal hypertension. Ultrasound was performed showed a cirrhotic liver with splenomegaly and mild ascites. Otherwise his blood investigations for hepatitis were negative.

His final diagnosis was bleeding duodenal varices and concomitant esophageal varices with underlying liver cirrhosis secondary to prolonged usage of traditional medicine.

III. Discussion

Duodenal varices account for one third of ectopic variceal bleed. However, in a study on patients underwent for angiography for portal hypertension 40% of the patient has paraduodenal varices. Another single center retrospective review of 5664 endoscopic procedures performed in 4 years, found the prevalence of duodenal varices to be 1 in 435 endoscopic procedures. Out of this, 69% has concomitant esophageal varices where as the rest was isolated duodenal varices.⁶ In duodenal varices, the afferent vessel originates from superior mesenteric veins or from portal vein trunk via the superior or inferior pancreaticoduodenal veins. The efferent veins drain to inferior vena cava.⁶

Furthermore, even though from the study showed 40% occurrence via angiography, duodenal varices occur on serosal surface as well as in muscular layers. It will only bleed once the varices expand into submucosal space. It will then bleed into the lumen. The common location for submucosal manifestation of duodenal varices by Amin et.al was at the duodenal bulb (55 of 73 cases). However, a survey for ectopic varices conducted over 5 years in Japan identified 57 cases of duodenal varices. The commonest location was in the descending part (82.5%) followed by transverse part (14%) and duodenal bulb (3.5%).⁸ The commonest cause for duodenal varices is intrahepatic portal hypertension followed by extrahepatic portal hypertension. It also reported occurring due to splenic or superior mesenteric veins obstruction and hepatic artery portal veins fistula.⁸ Duodenal varices usually asymptomatic unless it already expands into the submucosa space as it's tend to bleed. Duodenal varices bleed is life threatening if not manage promptly.⁶

Initial life saving measure and appropriated fluid resuscitation with crystalloid and blood product is essential.⁴ Patient vital signs and conscious level need to be monitor closely. Preliminary blood investigations also need to carry out. In our patient, his preliminary blood investigations showed normal liver and renal profile except his coagulation profile which was significantly prolonged. In pharmacologic therapy, initiation of somatostatin may be beneficial once variceal bleed is suspected. Once diagnosis confirm, it should be continued for 3-5 days according to the surgeon assessment on the bleed.⁵

The main intervention in acute bleeding is the endoscopic intervention. Endoscopic is both diagnostic and therapeutic. In endoscopy treatment, various modalities has been use to stop the bleed.^{5, 6} Among those modalities, injection sclerotherapy was the most common treatment use. Materials used for injection included bucrylate, ethanolamine and N-butyl-2-cyanoacrylate (Histoacryl, TissueSeal). Combination of sclerotherapy and vasopressin injection in one small study showed eight patients has better outcome than sclerotherapy injection alone. Others endoscopic treatment modality that has been tried is band ligation and clipping. Even though banding and clipping successful in halting bleeding, it is of limit if the varices more than 15mm. It also did not obliterate the feeding vessels unlike in sclerotherapy injection and technically difficult.⁵ Endoscopic Ultrasound (EUS) can be used to better localized and differentiate ectopic varices from other bleeding mucosal lesion. EUS also can be used in applying sclerosant or coils when adequate visualization is impossible with conventional endoscopy. Other than that, EUS is very beneficial in follow up of the varix therapy. However, there was no proper study showed which technique superior to the other. Hence, the choice of treatment depends on individual expertise, location of the bleeding and technical feasibility.

If endoscopy and medication treatment failed, intervention radiologist played a role in stopping the bleeding either via performing transjugular intrahepatic portosystemic shunt (TIPS) or angiography. In TIPS, it decompressed the portal hypertension by connecting the hepatic veins to portal veins directly in the liver parenchymal using an endograft. This procedure is suitable for patient with intrahepatic cause of portal hypertension.^{5, 6, 7} Other methods that can be offered by intervention radiologist is angiography. In angiography, it provides information on splenic vein patency and ectopic varices are confirmed by finding abnormal splanchnic vessel feeding. One the feeding vessel identified, balloon-occluded retrograde transvenous performed and obliteration the feeding vessel. This then followed by embolisation of the vessel.⁵ If intervention radiologist service not available or failed, surgical resection or ligations of the vessel plays an important role in stopping the bleeding.

Beside as acute management, surgery also plays role in treating the pathology as recurrence of duodenal variceal bleed can occur. If intrahepatic is the etiology, liver transplant is the main treatment if the patient is suitable for liver transplant. However, if the cause is extrahepatic and patient not suitable for liver transplant, consideration of portal-systemic shunt surgery can help in controlling recurrent variceal bleed.⁵

IV. Figures



Figure 1: Spurting noted from budging site in duodenum.



Figure 2: Bleeding of the budging site stop after glue injection. Noted the budging site arise from dilated tortuous vein on the duodenum mucosa. Other part of the duodenum appears inflamed. There was no other bleeding site or ulcer noted.

V. Conclusion

In this patient, he was successfully treated for duodenal varices bleed, completed his sandostatatin and was discharged well after 5 days stay in the ward. He is now under regular follow up from both surgical and medical team. If bleeding persists, he may benefit from TIPS as his portal hypertension is due to intrahepatic cause. Duodenal varices although rare is life threatening. Hence, diagnosis of duodenal varices and other ectopic varices requires high index of suspicion especially in known liver failure and persistent bleeding despite control of gastroesophageal source. Careful visualisation of duodenum is necessary. If we are unable to find the source of bleeding, there is indication for angiography as it is diagnostic and therapeutic. If angiography services are unavailable, surgical intervention to stop the bleed is necessary.

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