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Percutaneous Trans-Hepatic Embolization of Peristomal Variceal Bleed in Patient with Recto-sigmoidal Carcinoma with Liver metastasis and Portal Hypertension

Case Report

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Abstract

Variceal bleeds in the upper gastro-intestinal tract have been commonly described in cases of raised portal hypertension but ectopic peristomal varices are a rare entity and can have life threatening complications and high mortality. Here, we describe a known case of recto-sigmoidal carcinoma with a palliative sigmoidal stoma who presented with massive bleeding from the stoma site and was treated by percutaneous trans-hepatic variceal embolization.

Introduction

Upper GI bleed is a common entity seen regularly in day-to-day surgical clinical practice and is dealt with medical management first via fluids and drugs such as Terlipressin and once the patient is stable, endoscopic banding is carried out. Peristomal varices are a rare entity and there is no established guideline for their control as they tend to be more chronic than hemorrhagic, and now with the advent of endovascular procedures and improved imaging modalities, trans hepatic embolization is coming up as the treatment of choice where transjugular intrahepatic portosystemic shunt (TIPS) is contraindicated.

Case Presentation

A 39-year-old male, who is a known case of recto-sigmoidal carcinoma operated in November of 2021 with anterior resection and a palliative sigmoidal stoma presented to the Emergency Department (ED) of our hospital with severe stomal site bleeding. Patient had noticed small streaks of blood one day prior but on the day of presentation had severe bleeding and passing of blood clots along with stool from the stoma site. Patient gave history of similar episodes in the recent past for which he was admitted but managed conservatively as the bleeding was minimal. There was no history of fever, trauma to stoma site or per rectal bleeding. Past history was significant for recto-sigmoidal carcinoma with metastasis to liver, for which anterior resection was done and sigmoidal stoma was created, 10 cycles of chemotherapy was received. On general examination, the patient had pallor, no icterus, clubbing, cyanosis, or lymphadenopathy was noted. The patient had a pulse rate of 96/min, with a blood pressure of 110/60 mmHg. The patient was conscious and oriented. Examination of the abdomen revealed a soft, non-tender abdomen with gross ascites present. The stomal site had blood clots present.

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Multi-phase contrast enhanced tomography scan (CECT) abdomen was done which showed multiple metastatic lesions in the liver. Few of the lesions had calcific foci with in them (Figure 1a). There is bunch of vessels seen in the vicinity of the stoma with afferent from the inferior mesenteric vein (IMV) (Figure 1b) suggestive ofperistomalvarices.

Given the history of metastasis to liver, recurrence of episodic bleeding from stoma site which is progressively increasing in severity, and deranged liver function tests, after discussion with the surgical team, it was decided that a percutaneous transhepatic embolization of the variceal bleeding site would be carried out.

The patient was shifted to the Interventional Radiology Cathlab. Under strict aseptic precautions with the help of USG guidance the segment III branch of the left portal vein was punctured with the help of a micro-puncture set and a 6F sheath was placed. With the help of a 5F Picard catheter, a contrast run of the IMV was taken which showed large peri-stomal varices with afferent from the inferior mesenteric vein and efferent in the superficial epigastric veins (Figure2a) (Figure2b). With the help of a 2.7F progret catheter and 25% 2mL glue, embolization of the varices was done. Post embolization, complete obliteration of peri-stomal varices were seen (Figure2c) (Figure 2d). The hepatic parenchymal tract was embolized with the help of 25% glue.

2000IU of heparin was given during the procedure. No complications were noted during or after the procedure. There was no bleeding noted from the peri-stomal site and the patient was discharged on post procedure day 2 in stable condition.

Discussion

Variceal bleeding due to portal hypertension occurs mostly in the upper gastrointestinal tract and episodes of hemorrhagic ectopic variceal bleeding have been seen to occur rarely [1]. Only 5% of total variceal bleeds have been reported to be ectopic in nature, and an exceedingly small population has been reported to have peri-stomal bleed [2]. These bleeders tend to be chronic and rarely hemorrhagic. A multimodality approach using Ultrasound and CECT abdomen can be used to localize the site of the bleeding. Harding et al [7] have described the causes of portal hypertension in cases of liver metastasis

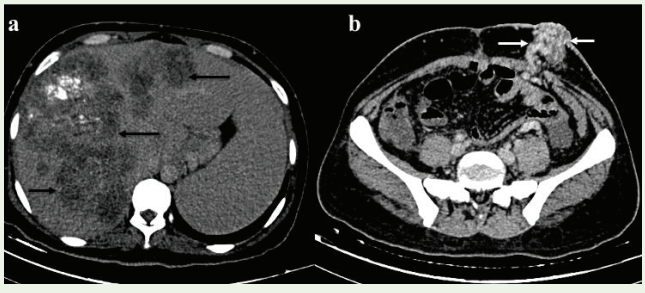

Figure 1: Axial contrast enhanced computed tomography (CECT) venous phase images.
(a) showing multiple well-defined hypodense lesions (black arrows) in both the lobes of liver. There are few foci of calcifications are seen in these lesions likely secondary to the chemotherapy.
(b) lower abdomen axial section image showing multiple tortuous vessels (white arrows) around the stoma suggestive of peri-stomal varices.

Figure 2: Digital subtraction angiography (DSA) contrast run images
(a) showing afferent dilated inferior mesenteric vein (black arrow) supplying the peristomal varices (white arrows).
(b) DSA image showing efferent superficial epigastric veins (curved white arrow).
(c) Fluros copy image showing deposition of the 25% N- butyl cyanoacrylate (Glue) in the varices (curved black arrow).
(d) DSA image showing non- visualization of varices suggestive of complete obliteration of the varices post embolization.

to be due to sinusoidal damage and fibrosis. These patients can be taken up for transjugular intrahepatic portosystemic shunts (TIPS) but TIPS procedure done in patients with deranged liver functions can lead to higher occurrence of hepatic encephalopathy. There is no standard of care established in such patients especially presenting in an acute setting but endovascular embolization using coil or glue remains a safe and effective method as described by Yao et al[3]. After endovascular embolization in an acute setting, TIPS can be performed concurrently in patients who are ideal candidates [4,5]. Various methods of embolization exist including glue embolization, gelfoam embolization or coil embolization [6,7]. Although coil embolization's have been found to be effective in controlling major bleeds in an acute setting, they have not managed to prevent recurrence of bleeds as described by Toumeh et al [8]. A combination of sclerotherapy and coil embolization has been found to be more effective in preventing recurrence. Risks of the procedure include bleeding from liver parenchyma and embolization of sclerosing material into the portal vein for which caution has to be taken.

Conclusion

Peri-stomal varices are a rare entity which can be managed well in a percutaneous transhepaticembolizton setting along with

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sclerotherapy and coilingforming part of the embolization modality. It is in fact the most preferred treatment option currently in cases where TIPS is contraindicated.

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