IMAGES IN HOSPITAL MEDICINE

Endoscopic Ultrasound for the Treatment of Gastric Variceal Bleeding in a Patient with Portal Cavernoma

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CASE SUMMARY AND DISCUSSION

A 30-year-old lady was admitted with two weeks of fever and right upper quadrant pain. She had a background of non-malignant, non-cirrhotic portal vein thrombosis (PVT) with cavernoma formation. There was no detected underlying pro-thrombotic condition. She had established portal hypertension with esophageal varices. Her portal cavernoma was complicated by portal biliopathy and concurrent gallstone disease - with an endoscopic retrograde cholangio-pancreatography (ERCP) and stenting four weeks prior to admission. Drug history included carvedilol for primary prophylaxis of bleeding, anticoagulation had not been undertaken due to collateralisation. Admission computerised tomography (CT) revealed multiple small liver abscesses with a patent biliary stent and no progression of PVT and she was treated conservatively with intravenous antibiotics.

Two weeks into her admission she suffered fresh hematemesis. She underwent urgent esophago-gastroduodenoscopy (EGD) showing two esophageal varices and a large fundal gastric varix, both with signs of recent bleeding. The esophageal varices were banded and she was commenced on intravenous terlipressin as per local protocol. The following day she underwent endoscopic ultrasound (EUS) of the stomach under general anaesthesia. Coil embolization of the gastric varix and injection of 5000 IU thrombin was performed with immediate clot formation. She remained stable and was discharged from hospital two weeks later to complete a course of antibiotics for her liver abscesses.

Portal biliopathy refers to the abnormalities within the intra and extra-hepatic biliary tree as a result of portal vein thrombosis (1), and is thought to occur due to multi-level obstruction of the common bile duct from collateral portal vein branches. Complications of portal biliopathy can

include biliary obstruction with resultant pain, jaundice, cholangitis or abscess formation.

Acute gastric variceal bleeding is a life-threatening emergency. Gastric varices can be categorized using the Sarin classification into gastro-esophageal varices (GOV, types 1 and 2) and isolated gastric varices (IGV) (2). For bleeding GOV-2 and IGV, EGD and injection obturation therapy with cyanoacrylate glue or human recombinant thrombin should be performed in the acute setting (3). EUS with coil embolization and thrombin injection is an alternative which achieves good results if expertise is available (4). If bleeding cannot be stopped, rescue trans-jugular intra-hepatic porto-systemic shunting is an option (3), however presence of portal vein thrombosis may make this technically challenging.

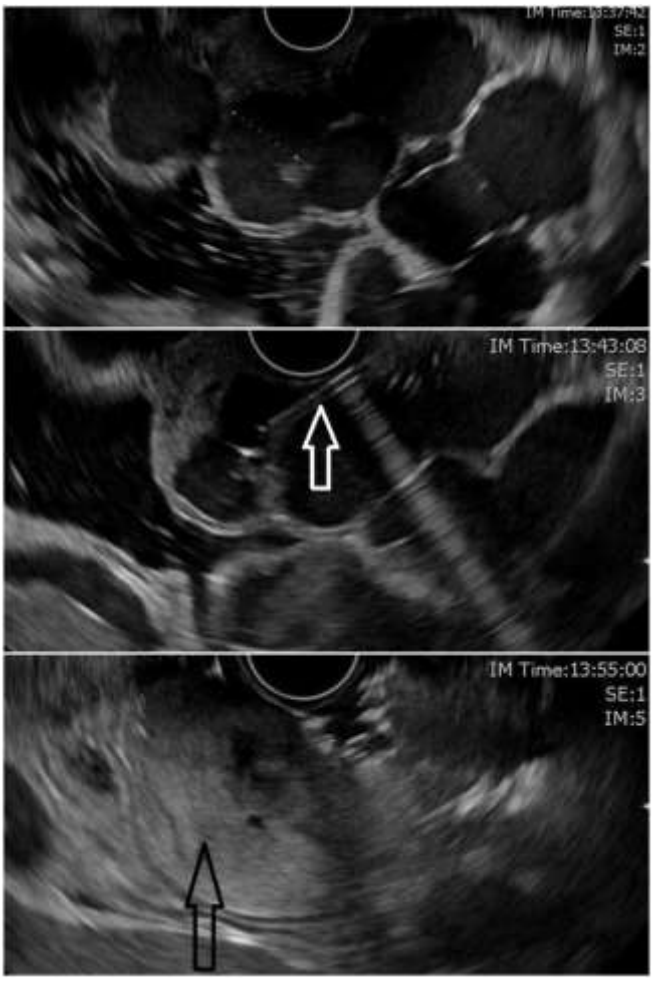

Figure 1. Top panel: endoscopic ultrasound view showing a tortuous gastric varyx. Middle panel: a needle (white arrow) is advanced into the varyx to enable delivery of coils and thrombin. Bottom panel: clot production is noted (black arrow) within the varyx after administration of coils and thrombin.

Notes

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References

1. Khuroo MS, Rather AA, Khuroo NS, Khuroo MS. Portal biliopathy. World journal of gastroenterology. 2016;22(35):7973-82.

2. Sarin SK, Lahoti D, Saxena SP, Murthy NS, Makwana UK. Prevalence, classification and natural history of gastric varices: a long-term follow-up study in 568 portal hypertension patients. Hepatology. 1992;16(6):1343-9.

3. Tripathi D, Stanley AJ, Hayes PC, Patch D, Millson C, Mehrzad H, et al. U.K. guidelines on the management of variceal haemorrhage in cirrhotic patients. Gut. 2015;64(11):1680-704.

4. Orourke J, Shekhar C, Tripathi D, Forde C, Mahon B. PWE-093 Treatment of gastric fundal varices with EUS guided embolisation combining coil placement with thrombin injection. Gut. 2018;67(Suppl 1):A118-A9.