APPEARANCE OF RECTAL VARICES IN EXTRAHEPATIC PORTAL OBSTRUCTION AFTER TREATMENT FOR ESOPHAGO-GASTRIC VARICES: A CASE REPORT

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Abstract: We report a case of rectal varices that developed after endoscopic injection sclerotherapy (EIS) and Hassab’s operation for esophageal varices with extrahepatic portal obstruction. A 54-year-old woman was admitted to our hospital in September 1997 for treatment of hematochezia. Emergent colonoscopy revealed tortuous rectal varices with a white plug. Angiography revealed that rectal varices were provided with backward blood flow by the inferior mesenteric vein due to extrahepatic portal obstruction. In this case, previous treatment, EIS and Hassab’s operation, for esophageo-gastric varices might have inhibited the development of collaterals apart from surface of gastrointestinal tract, such as para-esophageal collateral veins or spleno-renal shunt. Since the thrombus in the extrahepatic portal vein causes strong pressure on inferior mesenteric vein which is connected to the inferior vena cava via the inferior rectal vein, rectal varices might be developed. In this case, it was considered that rectal varices were not treated enough by endoscopic therapy because of regurgitant hyper blood flow against portal venous pressure. Therefore, rectal transection was performed. After the treatment, the patient suffered no further episodes of bleeding from rectal varices.

Key words: rectal varices, extrahepatic portal obstruction
INTRODUCTION

Gastrointestinal ectopic varices with portal hypertension are rarely observed in the duodenum, small intestine, colon or rectum\(^1\text{-}\text{7}\). A standard therapy for gastrointestinal ectopic varices has not been established since ectopic varices have a variety of hemodynamics. Therefore, determination of the hemodynamics of ectopic varices in each patient is important for selecting the most appropriate, endoscopic, radiological, or surgical treatment.

We herein report a case of rectal varices that developed after endoscopic injection sclerotherapy (EIS) and Hassab’s operation for esophageal varices with extrahepatic portal obstruction (EHO). The findings presented have provided insights into an understanding of the mechanisms underlying the development of rectal varices and determination of the best treatment method.

CASE REPORT

A 54-year-old woman was admitted to our hospital in September 1997 for treatment of hematochezia. She had been suffering from idiopathic portal hypertension with esophageal varices, which had been diagnosed in 1990. Although she had been treated with EIS for esophageal varices several times over a period of 3 years, eradication of the varices was not achieved. Therefore, Hassab’s operation was performed in June 1993. After the surgical treatment, no recurrence of esophageal varices had been observed. In June 1997, she was admitted to Fukushima Sanatorium Hospital for examination and treatment of hematochezia. Emergent colonoscopy revealed tortuous rectal varices with a white plug (Fig. 1). She was diagnosed as having rectal variceal bleeding, and endoscopic variceal ligation (EVL) was performed. However, the variceal form remained after the treatment, and the patient was transferred to Fukushima Medical University Hospital for further management.

Physical examination on admission revealed no notable abnormalities. Upper gastrointestinal endoscopy and endoscopic ultrasonography revealed no esophago-gastric varices and no collaterals around the esophagus (Fig. 2-a, b). These findings indicated that collaterals ascending from portal veins had been eradicated. Abdominal percutaneous ultrasound and x-ray angiography revealed cavernous transformation around the hiatus of the liver, and then she was diagnosed as secondly EHO after Hassab’s operation with rectal varices. With regard to the hemodynamics of the rectal varices, venography revealed that the rectal varices were supplied with backward blood flow by the inferior mesenteric vein (IMV) (Fig. 3). In this case, only the vein that reduces high portal pressure from IMV to inferior vena cava (IVC) via rectal varices was the major porto-systemic shunt. Therefore, it was considered that rectal varices were not treated enough by endoscopic therapy because of
Fig. 1. Colonoscopy showed the tortuous varices (short arrow) with white plug (long arrow) in rectum.

Fig. 2-a, b  a. Endoscopic findings of esophagus. No varices were seen.
            b. Endoultrasonographic findings of esophagus. There were no vessels inside and outside esophagus. It was suggested that previous treatments for esophageal varices were performed completely.

regurgitant hyper blood flow against portal venous pressure. We therefore performed rectal transection. After the treatment, the patient suffered no further episodes of bleeding from rectal varices.

DISCUSSION

Gastrointestinal ectopic varices occur in 1 to 3% of patients with portal hypertension\textsuperscript{9}. There are several case reports of hemorrhagic duodenal varices or rectal varices\textsuperscript{4-7}. Hemodynamics in these varices have been analyzed using x-ray angiography\textsuperscript{7,10}. With regard to the hemodynamics of rectal varices, it has been reported that the varices were supplied with blood by the IMV which has a backward blood
flow, and variceal blood flow into IVC\textsuperscript{11,12}. In the present case, blood was also supplied to the rectal varices by the IMV, and drained into the IVC via the inferior rectal vein.

Ectopic varices have been observed in about 70\% of patients with EHO\textsuperscript{13}, because of the development of collaterals that have hepatofugal blood flow and vessels that have hepatopetal blood flow. In the present case, rectal varices were associated with hepatofugal blood flow, and it is assumed that the rectal varices were developed by the following mechanisms. 1; the collaterals ascending from the portal vein, esophago-gastric varices and para-esophageal collateral veins, had been obliterated by EIS and Hassab’s operation. 2; spleno-renal shunt as descending collaterals were not naturally made as the occasion demands, because splenectomy was performed. Thus, previous treatment might have inhibited the development of collaterals apart from surface of gastrointestinal tract, such as para-esophageal collateral veins\textsuperscript{14} or spleno-renal shunt. Since the formation of thrombus in the extrahepatic portal vein causes strong pressure in IMV which is connected to the IVC via the inferior rectal vein, rectal varices might be developed in our patient. Naveau \textit{et al.}\textsuperscript{15} reported the case of rectal varices that had received sclerotherapy for previous bleeding from esophageal varices. The devascularizational treatment, EIS and/or Hassab’s operation, for esophageal varices may predispose to formation
of ectopic varices in portal hypertension.

In this case, it was thought that endoscopic treatment (EIS or EVL) could not be performed safely and would not be, because the IMV was the main collateral with regurgitant hyper blood flow against portal venous pressure. Therefore, only colon transection was performed. The patient has survived without any further bleeding from the varices. If rectal varices are observed by endoscopy, analysis of hemodynamics of the varices should be performed to determine the most appropriate method of treatment, especially in patients that have been performed both EIS and splenectomy. In addition, since previous treatment for esophageal varices may predispose to formation of rectal varices, administration of beta blocker is recommended to prevent rectal variceal bleeding in patients with portal hypertension, especially caused by EHO.

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