

CASE REPORT

Variceal bleeding from ileum identified and treated by single balloon enteroscopy

Mario Traina, Ilaria Tarantino, Luca Barresi, Filippo Mocchiari

Mario Traina, Ilaria Tarantino, Luca Barresi, Gastroenterology Department, ISMETT/UPMC, Palermo 90100, Italy
Filippo Mocchiari, Department of Internal Medicine, O.V.Cervello, Palermo 90100, Italy

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Correspondence to: Ilaria Tarantino, Professor, Istituto Mediterraneo Trapianti e Terapie ad Alta Specializzazione (ISMETT), via tricoli 1, 90129, Italy. itarantino@ismett.edu

Telephone: +39-91-2192111 Fax: +39-91-2192192-400

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of varices are the distal esophagus, stomach, and rectum, although varices may develop at any level of the gastrointestinal tract below the esophagus. In this infrequent site of varices, development of acute bleeding may be profuse, but very hard to detect and treat. Endoscopic diagnosis is impossible to achieve with a standard endoscope, and mesenteric angiography often gives a negative result. Recently, a novel endoscopic technique involving a single balloon assisted enteroscopy has emerged. In this report, we showed that the injection of a sclerosant solution in bleeding varices of the deep small intestine can be accomplished using a freehand technique *via* the single-balloon enteroscopy.

Abstract

We report a case of acute uncontrolled gastrointestinal bleeding in a patient with liver cirrhosis. The upper and lower endoscopy were negative for bleeding lesions. We decided to perform the examination of the small bowel using single-balloon enteroscopy. The lower enteroscopy revealed signs of bleeding from varices of the ileum. In this report, we showed that the injection of a sclerosant solution can be accomplished using a freehand technique *via* the single balloon enteroscopy.

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Key words: Ectopic varices; Ileal bleeding; Enteroscopy; Portal hypertension; Glue injection

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INTRODUCTION

Variceal bleeding occurs in 25 to 40 percent of patients with cirrhosis and each episode of active variceal bleeding is associated with a high percentage of mortality (up to 30%). The most common sites for development

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A 58-year-old woman with HBV-related cirrhosis was transferred to our unit for acute uncontrolled gastrointestinal bleeding. The woman was on beta-blocker therapy for primary prophylaxis against variceal bleeding because of F3-grade oesophageal varices. The upper and lower endoscopy performed upon admission were negative for bleeding lesions. We, therefore, decided to complete the examination of the small bowel using single-balloon enteroscopy. Upper enteroscopy was negative until approximately two meters below the Treitz ligament. The lower enteroscopy, about 1.5 meters from the ileo-cecal junction, revealed signs of recent bleeding from varices of the ileum (Figure 1). On this evidence, sclerotherapy with cyanoacrylate was performed (Figure 2). Bleeding stopped and the patient underwent placement of a trans-jugular intrahepatic portosystemic stent shunt (TIPS).

DISCUSSION

A major cause of cirrhosis-related morbidity and mortality is the development of variceal bleeding due to portal hypertension. Variceal bleeding occurs in 25 to 40 percent of patients with cirrhosis^[1] and each episode of active variceal bleeding is associated with a high percentage of mortality (up to 30%)^[2,3]. The most common sites for development of varices are the distal oesophagus, stomach, and rectum, although varices may develop at any level of the gastrointestinal tract below the oesophagus. In this infrequent site of varices, development of acute bleeding may be profuse, but



Figure 1 Varices in the ileum with signs of recent bleeding.



Figure 2 Varices after cyanoacrylate injection.

very hard to detect and treat. Endoscopic diagnosis is impossible to achieve with a standard endoscope, and mesenteric angiography often gives a negative results. Consequently TIPS placement^[4,5] or major surgery^[6] are the treatment of choice to resolve the bleeding. Reports showed that ectopic varices can re-bleed despite a reduction of the porto-systemic pressure gradient to ≤ 12 mmHg or by 25%-50% of the baseline^[7]; otherwise careful patient selection is vital to a successful outcome, as patients with severe liver dysfunction tend to die post-TIPS despite a functioning shunt. All patients who require TIPS for treatment of complications of cirrhosis should be referred for consideration of liver transplant.

Recently, a novel endoscopic technique involving a single balloon assisted enteroscopy has emerged^[8]. This enteroscopy system consists of a high-resolution endoscope with a latex-free balloon attached at the tip of the silicon over the tube. The balloon is inflated and deflated with air from a pressure controlled pump system. The scope is threaded into the small bowel with

push-pull movements under fluoroscopy control. This is not easy to perform, but can safely examine the deep small intestine with the possibility of both diagnostic and therapeutic approaches during bleeding from varices developed in the small bowel^[9]. Endoscopic therapy is currently the treatment of choice for active variceal bleeding (sclerotherapy and variceal band ligation), but with a standard endoscope only upper and lower variceal bleeding can be treated^[10]. In this report, we showed that the injection of a sclerosant solution in bleeding varices of the deep small intestine can be accomplished using a freehand technique *via* the single-balloon enteroscopy. This novel technique may be used alone or with other treatments of active variceal bleeding, such as TIPS placement. Unfortunately, the difficulty and length of the procedure restricts the use of enteroscopy to referral centers with expert endoscopists.

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