Endoscopic Band Ligation and Esophageal Stents for Acute Variceal Bleeding

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KEYWORDS

• Cirrhosis • Gastrointestinal bleeding • Esophageal varices
• Endoscopic band ligation • Esophageal stents • TIPS • Portal hypertension
• Acute variceal bleeding

KEY POINTS

- Acute variceal bleeding (AVB) is one of the most serious and feared complications of patients with portal hypertension.
- The management of AVB includes a stepped care approach aimed at resuscitation, restrictive transfusion policy, antibiotic prophylaxis, pharmacologic therapy with vasoconstrictors, and endoscopic therapy.
- The most accepted endoscopic method for treating bleeding varices is endoscopic band ligation, which is effective in approximately 90% of patients. Endoscopic sclerotherapy may be used if band ligation is not possible.
- Esophageal stents that cause tamponade of the esophagus are safer and more effective as a rescue therapy for AVB than balloon tamponade with Sengstaken Blakemore tubes.

Video of Endoscopic band ligation technique accompanies this article at http://www.liver.theclinics.com/

Acute variceal bleeding (AVB) is a dreaded complication in patients with portal hypertension, and the first episode in a patient with cirrhosis constitutes a significant milestone in the progression of the hepatic disease with important implications in prognosis. Mortality rates due to AVB have decreased in the past 30 years, from 60% to 15% to 20% at 6 weeks, thanks to improvements in general management, medical treatment, and endoscopic therapy.[1] However, there is still a significant

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recurrence rate and that is why after an episode of AVB patients need secondary prophylaxis. Endoscopy by means of using endoscopic band ligation (EBL) plays a key role in the management of AVB. Current available methods, combined with vasoactive drugs, allow for the control of bleeding in approximately 90% of cases within the first days of the index bleed.[2,3] In cases in which AVB cannot be controlled with endoscopy, balloon tamponade of the esophagus may be required; however, there are significant complications with this method. The recent introduction of fully covered self-expandable metallic stents for AVB is useful in those cases in which balloon tamponade is considered as it is more effective and safer for the temporary control of bleeding. This article reviews the current management of AVB with particular emphasis on EBL and esophageal stents.

NATURAL HISTORY/DIAGNOSIS

Esophageal varices are present in nearly 30% to 40% of patients with compensated cirrhosis and in 60% to 80% of those with decompensated cirrhosis.[4] They initially develop as small varices that gradually dilate at a rate of 5% per year. Variceal bleeding usually occurs late in the natural history of portal hypertension, and for varices to bleed, portal pressure as measured by the hepatic venous pressure gradient (HVPG) must rise above 12 mm Hg.[3,5] Certain characteristics such as the severity of liver disease, the size of the varix, and the presence of red wale marks (especially on thin areas of the variceal wall), place the varices at risk of bleeding, which can occur with an incidence of 4% to 15% per year.[4,6,7] Because patients with cirrhosis with an episode of upper gastrointestinal bleeding will have varices as the cause in 80% of cases, bleeding in this setting should be presumed to be of variceal origin.[8] The gold standard for diagnosis of AVB is gastroscopy, which may show active bleeding or oozing from a varix (present in nearly 10%–20% of patients) (**Fig. 1**), signs of a recent hemostasis with a white nipple or adherent clot on a varix, or blood in the stomach and/or presence of varices with no other explainable sources of bleeding. Early rebleeding rates within the first 48 to 72 hours after the index bleed can be high (30%–40%) if patients are not properly treated.[9–11] After 6 weeks, the risk of further bleeding is similar to that before the index bleed.[11,12] Mortality rates from an episode

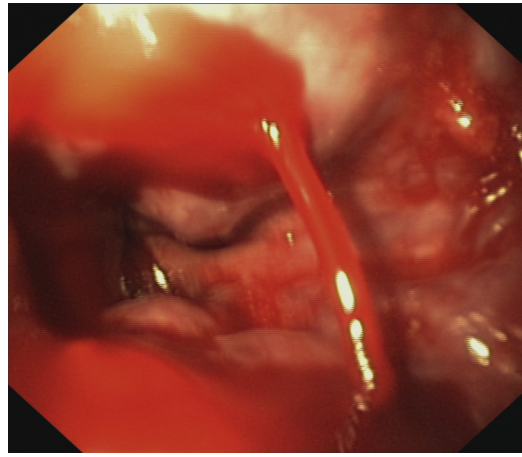

Fig. 1. Endoscopic view of an actively bleeding (spurting) esophageal varix in a patient with cirrhosis.