Endoscopic Diagnosis and Therapy in Gastroesophageal Variceal Bleeding

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KEYWORDS

• Variceal hemorrhage • Esophageal varices • Gastric varices • Endoscopy
• Endoscopic band ligation • Endoscopic sclerotherapy
• Endoscopic variceal obturation • Cirrhosis

KEY POINTS

- Gastroesophageal variceal hemorrhage is a medical emergency with high morbidity and mortality.
- Endoscopic therapy is the mainstay of management of bleeding varices.
- It requires attention to technique and the appropriate choice of therapy for a given patient at a given point in time.
- Subjects must be monitored continuously after initiation of therapy for control of bleeding, and second-line definitive therapies must be introduced quickly if endoscopic and pharmacologic treatment fails.
- An appropriate surveillance plan must be established for prevention of future bleedings.

INTRODUCTION

Gastroesophageal varices (GOVs) are present in approximately 50% of patients with cirrhosis, more so with Child C cirrhosis (up to 85%). Rupture of these varices

Grant support: This article was supported in part by NIH T32 DK 07150-038 to Dr A.J. Sanyal.
Conflicts of Interest: None to report (Dr A. Kapoor, Dr N. Dharel); Dr A.J. Sanyal: has stock options in Genfit. He has served as a consultant to AbbVie, Astra Zeneca, Nitto Denko, Nimbus, Salix, Tobira, Takeda, Fibrogen, Immuron, Exhalenz, and Genfit. He has been an unpaid consultant to Intercept and Echosens. His institution has received grant support from Gilead, Salix, Tobira, and Novartis.
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Gastrointest Endoscopy Clin N Am 25 (2015) 491–507
http://dx.doi.org/10.1016/j.giec.2015.03.004 giendo.theclinics.com
1052-5157/15/$ – see front matter

constitutes a medical emergency and can be rapidly fatal unless quickly controlled. Acute variceal bleeding occurs in a yearly rate of about 5% to 15% in subjects with varices and, despite advancement in diagnostics and therapy, the 6-week mortality from variceal bleeding can be as high as 20%.[1] Prompt diagnosis is a key factor in effective and timely management of these patients. Focused history, directed physical examination, and basic laboratory measurements are important parts of the triage to plan resuscitative measures, timing of endoscopy, other therapies, and for prognostication. In later discussion, the role of endoscopy in the diagnosis and management of bleeding gastr-esophageal varices is discussed.

ENDOSCOPIC DIAGNOSIS OF VARICEAL HEMORRHAGE

The key objectives of the initial evaluation of a subject with suspected variceal bleed include assessment of the severity of bleeding, identification of the source of bleeding, and risk assessment of prognosis, including the presence of infection and complications. Once therapy is initiated, ongoing assessment of bleeding control is required to determine the need for second-line interventions. Endoscopy plays a critical role in these processes and is central to the management of active variceal bleeding.

Any upper gastrointestinal bleeding in a patient with known cirrhosis or evidence of portal hypertension should be considered and managed as a case of variceal bleeding until proven otherwise by endoscopy. Esophagogastroduodenoscopy is considered the gold standard for the diagnosis of gastroesophageal variceal bleeding. It can be performed at the bedside in the emergency department, and therapy can be provided at the same time when diagnostic assessment is performed. In the setting of active bleeding, a diagnosis of variceal hemorrhage is based on demonstration of bleeding varices, stigmata of recent bleeding (eg, an adherent clot over a varix or a platelet plug [white nipple sign]), or the presence of varices and upper gastrointestinal bleeding without other obvious identifiable sources of bleeding (**Box 1**).[2] The location of the varices is also identifiable at the time of endoscopy along with assessment of the size of the varices. These data are needed for both the diagnosis and the determination of the optimal approach for long-term bleeding control.

Box 1
Diagnosis of gastroesophageal variceal bleeding

Esophagogastroduodenoscopy is the gold standard for the diagnosis of acute variceal bleeding. A diagnosis of gastroesophageal variceal bleeding is made if any of the following criteria is satisfied:

1. Direct visualization of blood (spurting or oozing) arising from an esophageal or gastric varix.
2. Presence of gastroesophageal varix with signs of recent bleed (stigmata) such as white nipple sign or overlying clot.
3. Presence of varix with red signs plus presence of blood in the stomach in the absence of another source of bleeding.
4. Presence of varix with red signs (cherry red spots: small, ~2 mm, red, spotty flat spot on the variceal surface, red wale signs, longitudinal read streaks on the variceal surface, hematocystic spots, large, >3 mm, round, discrete, red raised spots on the variceal surface) and clinical signs of upper gastrointestinal bleeding, without blood in the stomach.

Adapted from Sarin SK, Kumar A, Angus PW, et al. Diagnosis and management of acute variceal bleeding: Asian Pacific Association for study of the liver recommendations. Hepatol Int 2011;5:619; with permission.