

# ADVANCES IN ENDOSCOPY

Current Developments in Diagnostic and Therapeutic Endoscopy

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## Management of Esophageal Varices

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**G&H** Could you describe the pathophysiology of esophageal varices and how the condition is related to cirrhosis of the liver?

**JT** Esophageal varices are caused by portal hypertension most commonly due to cirrhosis or to portal vein thrombosis. In patients with cirrhosis, the liver becomes fibrotic and hardened and the blood is unable to pass through the liver from the visceral veins. Pressure builds in the portal system and this directly causes enlargement of esophageal varices, which have the potential to rupture and bleed, causing serious clinical problems.

**G&H** What prophylactic therapies and screening can be utilized to prevent the rupture and bleeding of esophageal varices?

**JT** In cirrhotic patients who have never bled before, screening for esophageal varices is recommended at least once every 3 years. If large varices are identified in these patients, they may undergo either prophylactic band ligation therapy, administration of  $\beta$ -blockers, or both.

**G&H** How do you treat a patient with an active bleed from esophageal varices?

**JT** If a patient presents with gastrointestinal bleeding and cirrhosis, they need to undergo urgent or emergent endoscopy and the source of the bleed needs to be identified. If the cause is esophageal varices, band ligation is the first-line treatment that should be applied. Patients who fail band ligation therapy and have continued bleeding are candidates for transjugular hepatic portosystemic shunting (TIPS) therapy.

The first thing that should be done for a patient with esophageal bleeding, or cirrhosis and any gastroin-

testinal bleeding, is to provide volume resuscitation and an attempt to correct any coagulopathy. Endoscopic examination allows the direct visualization of the varices and the source of bleeding, which can be active spurting or bleeding, or a red dimple, which is a sign of a recent bleed. Other causes of bleeds, including ulcers and portal gastropathy, can also be assessed at this time.

The urgency of endoscopic examination and ligation therapy depends on the stability of the patient. If the patient is hypotensive, unstable, and has signs of ongoing bleeding, they need to have emergent endoscopy. If the bleeding is subacute and the patient is clinically stable, endoscopy and band ligation can be scheduled for routine hours. The endoscopist can make that determination upon examination.

For patients with alcoholic cirrhosis who are actively drinking, general anesthesia may be required for the endoscopic procedure. In these patients, waking-sedation anesthetics, including benzodiazepines, often cause an antagonistic reaction, wherein the patient becomes highly agitated, rather than achieving the desired and expected sedative effect.

**G&H** What therapies can be applied to prevent the recurrence of bleeding in a patient whose varices have ruptured?

**JT** After a patient has been through the initial band ligation to correct an active bleed, he or she requires repeated band ligation treatment in order to obliterate the varices altogether. In my opinion, one of the most common errors in clinical management of these patients is that physicians will administer treatment for active bleeds but will neglect to call the patient back (or the patient will simply fail to return) to undergo recurrent band ligation therapies. These procedures need to be performed every 1–2 weeks for a total of 2–4 sessions, in order to completely obliterate the varices. In patients with previous bleeding who do not have varices completely obliterated, the risk of rebleeding has been estimated at as much as 80%.

**G&H** Can you further describe the role of  $\beta$ -blockade in the management of these patients?

**JT** In general,  $\beta$ -blockers are effective in decreasing portal pressure and they are recommended for prophylactic prevention of recurrent bleeding. However, there are several clinical problems with this therapy. Many patients can be intolerant of the medication. Common side effects that limit the administration of  $\beta$ -blockers include hypotension, dizziness, and symptomatic bradycardia. Because of these issues, I prefer band ligation therapy over  $\beta$ -blockade.

In addition, in areas with low population density, similar to much of the region surrounding our institution, many patients live a great distance from the nearest hospital and do not have an accessible endoscopy center to treat acute bleeding. As a result, we tend to be aggressive in treating patients with band ligation, both prophylactically and after bleeding. If these patients experience bleeding at home, it could be fatal, as they do not have a nearby hospital where they can receive treatment.

**G&H** Is there a role for sclerotherapy in the treatment of varices?

**JT** Band ligation therapy has been shown in studies to be easier to apply, with far fewer side effects, and is just as, if

not more, effective than sclerotherapy (direct injection of a sclerosant agent into the variceal vessel). I have not performed sclerotherapy in any patients in 8–10 years, largely due to the side effects, including strictures and ulceration, that manifest in patients who receive it. Sclerotherapy also has rare systemic hazards of infection with bacteremia. None of this is of concern in therapy with band ligation.

**Suggested Reading**

Yan BM, Lee SS. Emergency management of bleeding esophageal varices: drugs, bands or sleep? *Can J Gastroenterol.* 2006;20:165-170.

Garcia-Pagan JC, Bosch J. Endoscopic band ligation in the treatment of portal hypertension. *Nat Clin Pract Gastroenterol Hepatol.* 2005;2(11):526-35. Review.

Krige JE, Shaw JM, Bornman PC. The evolving role of endoscopic treatment for bleeding esophageal varices. *World J Surg.* 2005;29:966-973. Review.

Karsan HA, Morton SC, Shekelle PG, et al. Combination endoscopic band ligation and sclerotherapy compared with endoscopic band ligation alone for the secondary prophylaxis of esophageal variceal hemorrhage: a meta-analysis. *Dig Dis Sci.* 2005;50:399-406.



## Call for Case Studies

We invite our readers to submit case studies for publication. For cases, please send a description of the case followed by your treatment question(s). Case studies are published alongside an expert commentary. Case studies should include a description of the case and a brief literature review. Specific inquiries for the reviewer should also be stated. Inclusion of tables and/or figures is encouraged. All submissions are peer reviewed.

To submit your case study or manuscript, please send an electronic file to [editor@clinicaladvances.com](mailto:editor@clinicaladvances.com) and mail a single printed copy to the address provided.

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