Acute Variceal Bleeding

Current guidelines recommend that patients with acute esophageal variceal hemorrhage receive a vasoactive drug (e.g., octreotide), beginning as soon as possible after presentation and continued for up to five days, plus endoscopic ligation therapy.\(^1,2\)

Three double-blind randomized trials compare vasoactive medications to placebo started before endoscopy. They show less active bleeding at a mean of 3-4 hours in two trials, and improved bleeding control at 12 hours in a third trial.\(^3-5\) Unfortunately, none of these studies initiated vasoactive medications after endoscopy in the placebo group for patients found to have varices (to simulate standard clinical practice), and thus these trials are unable to provide strong evidence documenting improved outcomes with pre-endoscopic vasoactive therapy.

A subgroup analysis of patients with actively bleeding variceal hemorrhage in a randomized trial of sclerotherapy vs. sham sclerotherapy showed significant benefit of sclerotherapy in both bleeding and mortality, thereby documenting the utility of endoscopic therapy in the acute setting.\(^5\)

Meta-analyses have differing conclusions about the relative benefit of endoscopic sclerotherapy vs. vasoactive medications (either showing no significant difference or showing a benefit of sclerotherapy). Nevertheless, randomized trials have shown that ligation is superior to sclerotherapy in control of bleeding in patients with acute esophageal variceal hemorrhage, and sclerotherapy has been replaced by ligation for the treatment of esophageal variceal hemorrhage. Therefore, the many randomized trials employing sclerotherapy are not relevant to current practice, and we need to focus on the smaller number of trials employing ligation therapy.

Randomized trials show that ligation monotherapy is superior to somatostatin monotherapy,\(^9\) and that ligation plus terlipressin is superior to terlipressin monotherapy.\(^10\) Randomized trials also show that ligation + octreotide is superior to ligation alone or octreotide alone in control of bleeding.\(^11,12\)

Thus, synthesis of the available data from randomized controlled trials of medical and endoscopic therapy does indicate that patients with acute variceal hemorrhage have significantly better control of bleeding with ligation therapy than with sclerotherapy (and by inference, better control than no endoscopic therapy) and that vasoactive medications alone are less effective than ligation. Furthermore, randomized trials show that addition of vasoactive medication (e.g., octreotide) to ligation does significantly improve control of bleeding as compared to ligation therapy alone.

Early transjugular intrahepatic portosystemic shunt (TIPS) (within 24-72 hours) for high risk patients presenting with acute variceal bleeding is supported by two randomized controlled trials. The most recent study, a high quality trial including patients with Child-Pugh class C cirrhosis (score 10-13) or Child-Pugh class B with actively bleeding varices, found significantly less rebleeding and lower mortality, without an increase in encephalopathy, in patients treated with urgent TIPS rather than standard endoscopic and medical therapy (all patients received vasoactive medical therapy and endoscopic ligation at admission).\(^13\)

In patients who have recurrent bleeding despite medical and endoscopic therapy, current guidelines recommend repeat endoscopic therapy or TIPS, with TIPS suggested for persistent bleeding or severe recurrent bleeding.\(^1\) Initial case series of patients with esophageal variceal hemorrhage refractory to standard endoscopic and medical therapy also report excellent acute control of bleeding with placement of covered self-expanding esophageal stents that can be removed after several days in place.

Prevention of Recurrent Variceal Bleeding

Current guidelines recommend that patients with prior esophageal variceal hemorrhage should receive serial endoscopic ligation plus chronic beta-blocker therapy.\(^1,2\)

Endoscopic ligation therapy is recommended every 1-2 weeks until varices are eradicated, then at 1-3 months, then at 6-12 month intervals depending on variceal recurrence. Meta-analyses of randomized controlled trials indicate that combined endoscopic and medical therapy is more effective at preventing recurrent esophageal variceal bleeding than either endoscopic or medical therapy alone, although no significant difference in mortality is present.\(^14\)

Patients who have further bleeding despite endoscopic and medical therapy generally should undergo TIPS, and use of coated stents for TIPS is associated with less shunt dysfunction and less need for reintervention than use of uncoated stents. Patients with well compensated cirrhosis (e.g., Child-Pugh class A) may be considered for surgical decompression:
these patients have comparable clinical outcomes compared to those undergoing TIPS, but require less subsequent intervention (primarily related to shunt dysfunction) than those who undergo TIPS.¹

**Gastric Variceal Bleeding**

Endoscopic therapy with tissue adhesive (e.g., N-butyl-cyanoacrylate) is recommended for treatment of gastric variceal hemorrhage. Although it may be superior in the acute setting for control of bleeding, its main documented benefit is a significantly lower rate of rebleeding as compared to ligation.¹⁵-¹⁷ N-butyl-cyanoacrylate has also been shown to be superior to β-blockers in a randomized controlled trial.¹⁸ However, another randomized trial showed that TIPS was superior to N-butyl-cyanoacrylate in prevention of rebleeding in patients with gastric variceal hemorrhage, although no significant differences were seen in mortality or complications.¹⁹

**REFERENCES**