Gastroesophageal varices are present in 50% of patients with cirrhosis, and the presence of varices correlates with severity of liver disease:
- 40% in Child Class A
- 85% in Child Class C

Varices develop and worsen in cirrhotic patients at a rate of 8% per year.

The risk of first variceal hemorrhage is about 15% per year with the greatest risk factor being the size of the varices.

If left untreated, late rebleeding occurs in 60% of patients in 1-2 years.

Variceal hemorrhages are associated with a mortality rate of 20% at 6 weeks.

**Diagnosis**

- **Gold Standard:** Esophagogastroduodenoscopy (EGD)
- Screening EGD at time of diagnosis of cirrhosis:
  - Repeat every 2-3 years for compensated cirrhotics without varices or every year for patients with varices or decompensated cirrhotics

**Acute Management**

(See [Upper GI Bleed guideline](#) for initial general management)

- Management must be in ICU setting
- Initial stabilization:
  - Secure airway
  - Peripheral venous access
  - Volume resuscitation
- Transfuse blood products (goal hemoglobin of 8 g/dL)
  - FFP and platelets as needed
- Initiate prophylactic antibiotics to decrease rate of SBP and reduce rebleeding rate
  - Ciprofloxacin PO 400 mg BID x 7 days or
  - If unable to safely take oral, then IV ceftriaxone 1 g/day x 7 days
- Administer vasoconstrictor octreotide (50 mcg bolus followed by 50 mcg/hr continuous infusion):
  - Start as soon as variceal bleed is suspected (do not wait for EGD confirmation)
  - Continue for 3-5 days after hemorrhage
- Emergent endoscopy (within 12 hours) to identify source of hemorrhage, and intervention with band ligation (or equivalent therapies) of bleeding varices
- If unable to control bleeding with endoscopic banding:
  - Proceed to transjugular intrahepatic portosystemic shunt (TIPS) (IR procedure) or
  - Consider endoscopic gluing of gastric varices (N-2-butyl cyanoacrylate) or Interventional radiology consult for post-balloon-occluded retrograde transvenous obliteration (BRTO)
  - Balloon tamponade (if planning for more definitive therapy within 24 hours)
  - Obtain/consider Surgery consult

**Primary Prophylaxis**

- **No varices:**
  - No need for prophylaxis
- **Small varices (low-high risk):**
  - Repeat EGD every 1-2 years
- **Medium or large varices:**
  - Nonselective beta-blockers or EGD for endoscopic variceal ligation (banding)

**Secondary Prophylaxis**

(Management after Variceal Bleeding)

- Nonselective beta-blockers (titrate to maximal tolerated dose) AND repeat EGD for endoscopic variceal ligation (banding)
  - Repeated every 2-4 weeks until obliteration
- Consider TIPS for recurrent variceal bleeds despite pharmacologic and endoscopic variceal ligation prophylaxis
- Consider endoscopic glueing of gastric varices (N-2-butyl cyanoacrylate) or Interventional Radiology consult for post-balloon-occluded retrograde transvenous obliteration (BRTO)
- Refer for liver transplant evaluation

**Note:** The greatest risk for rebleeding is within 5 days of initial hemorrhage.
References


Quality Measures

- Percent of patients receiving prophylactic antibiotics (ciprofloxacin or ceftriaxone)
- Percent of patients receiving octreotide (started on presentation and continued 3-5 days)
- Percent of patients with endoscopy within 12 hours of admission
- Percent of patients discharged on beta blocker
- 30-day readmission rate
- Mortality rate (risk adjusted)
- Length of stay (risk adjusted)

Guideline Authors

- James Hanje, MD

Guideline Approved


Disclaimer: Clinical practice guidelines and algorithms at The Ohio State University Wexner Medical Center (OSUWMC) are standards that are intended to provide general guidance to clinicians. Patient choice and clinician judgment must remain central to the selection of diagnostic tests and therapy. OSUWMC’s guidelines and algorithms are reviewed periodically for consistency with new evidence; however, new developments may not be represented.

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