Review Article

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Bleeding Varices

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Abstract

Esophageal and gastric varices are one among many complications of Cirrhosis of liver. It occurs in 1/3rd of patients with cirrhosis. First bleeding episode has mortality of 30–50%. Bleeding varices are due to structural changes in the liver from cirrhosis. Esophageal varices are a complex tortuous veins at the lower end of the esophagus, enlarged and swelled due to portal hypertension. Gastric varices are located in the upper portion (cardiac and fundus) of the stomach. Manifestations include hematemesis, melena, general deterioration and shock. Patients with varices must undergo screening endoscopy every two years. Management of bleeding varices includes emergency, therapeutic and prophylactic interventions.

Keywords: Esophageal varices; Variceal ligation and transjugular intrahepatic portosystemic shunt (TIPS).

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Introduction

Acute gastrointestinal bleeding is a potentially life-threatening abdominal emergency that remains a common cause of hospitalization. Upper gastrointestinal bleeding (UGIB) is defined as bleeding derived from a source proximal to the ligament of Treitz. UGBI can be categorized as either variceal or non-variceal. Variceal is a complication of end stage liver disease. While non variceal bleeding associated with peptic ulcer disease or other causes of UGIB. Varices are dilated blood vessels usually in the esophagus or stomach. They cause no symptoms unless they rupture and bleed. Management also involves a combination of drug therapy and endoscopic therapy.

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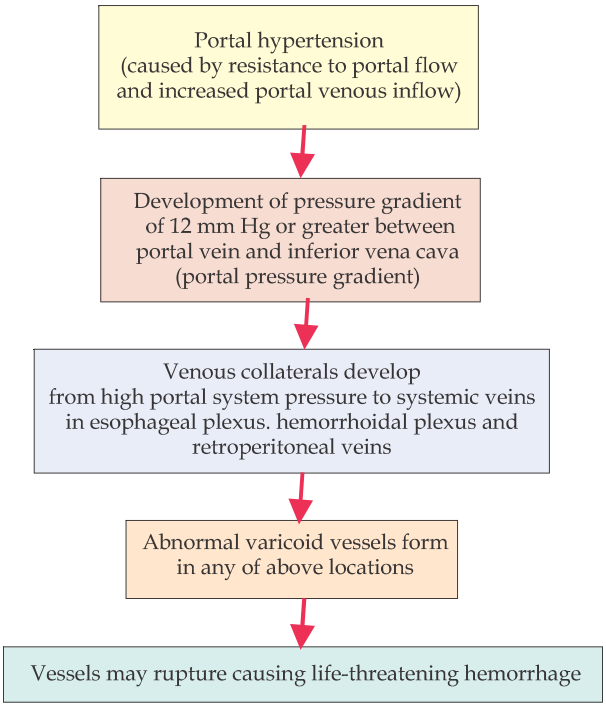
Sign and Symptoms

Non bleeding varices are generally asymptomatic. Once varices are bleeding, patients classically present with symptoms of an upper gastrointestinal hemorrhage such at hematemesis, passage of black or bloody stools, lightheadedness, or decreased urination. Associated signs of variceal hemorrhage include decompensated liver function manifested as jaundice, hepatic encephalopathy, worsened or new-onset ascites.

Physical examination will likely reveal hypotension or shock (in severe cases), pallor and stigmata of chronic liver disease such as spider angiomatas, palmar erythema, gynecomastia, or splenomegaly. A rectal examination should be performed on all patients without obvious bleeding. A black tarry stool on the gloved finger suggests an upper gastrointestinal source, and further workup needs to be pursued. Hemoccult testing is not necessary

because clinically significant bleeding should be apparent with visual inspection of the stool alone.

Pathophysiology of Bleeding varices



Pharmacological management

- Somatostatin analog octeriotide- vasoconstrictors
- Nitroglycerin may be used in combination with vasopressin - to reduce coronary vasoconstriction Beta adrenergic blockers (Propranolol and nadolol) -to decrease portal pressure
- Vitamin supplementation (A, C, K, folic acid) - to stop bleeding
- Histamine receptor blockers (cimetidine/ ranitidine)
- Proton pump inhibitors (pantoprozole)
- Antibiotics- (Ciprofloxacin)
- Lactulose and Neomycin - to prevent hepatic encephalopathy from breakdown of blood and the release of ammonia in the intestine

Non-pharmacological management

- Sclerotherapy: the sclerosing agent (eg. scleromate) is introduced via endoscopy, leading to thromboses and obliterates the distended vein.
- Ligation of varices/ banding: a small rubber band (elastic o-ring) is slipped around the base of varix.
- Balloon tamponade: mechanical compression of the varices. The Minnesota/ Sengstaken Blakemore tube is used for this purpose.
- Glue: Cyanoacrylate glue is injected into the varices and has been found to achieve haemostasis in nearly 100% of cases. Re-bleeding rates have been documented to be as low as 2%. However, this technique requires technical expertise to avoid harming the patient, endoscopist, or equipment.

Surgical management

- Shunt therapy: Transjugular intrahepatic portosystemic shunt (TIPS) is a non surgical procedure in which a tract between the systemic and portal venous system is created to redirect portal blood flow. A catheter is placed in the jugular vein and then threaded through superior and inferior vena cava to the hepatic vein. Currently, the surgical shunts most commonly used are the portocaval shunt and the distal splenorenal shunt.

Nursing management with rationale

- Manage the airway- to prevent from complication.
- Initiate IV therapy, volume expanders, and electrolytes - to prevent hypovolemic shock.
- Saline Lavage - to remove blood from the stomach, this helps to prevent the blood from degrading to ammonia.
- The esophageal blood must be deflated every 8-12 hours -to avoid necrosis.
- The NG lumen may be connected to suction - to remove blood and keep the stomach empty to reduce the risk of aspiration.
- If gastric balloon breaks / deflates, the esophageal balloon may slip upward, obstructing the airway and causing asphyxiation. If this happens nurse must cut the tube / deflate the balloon. Scissors must be kept at the bedside.
- Oral and pharyngeal suctioning and keep

the patient in a semi- fowler's position- to minimize regurgitation.

- Administration of blood products (fresh frozen plasma, packed RBCs)- to prevent shock.
- Bed rest and activities can be modified according to signs of improvement- to reduce fatigue.
- Monitor Intake output chart- to detect early deterioration of health.
- Monitor and manage hemodynamic and renal parameters as well as glucose, electrolytes and acid base status.
    a) Close monitoring of vital signs
    b) Monitor patient's condition frequently, including emotional responses and cognitive status.
- Observe signs of bleeding (hematemesis/ melena) - early detection of hypovolemic shock.
- Encourage the patient for expectorate and should provide emesis basin and tissues- to reduce discomfort.
- Frequent oral and nasal care provides relief from the taste of blood and irritation from mouth breathing.
- Avoidance of alcohol, minimize or reduce aspirin, acetaminophen and NSAIDs-to prevent deterioration of health.
- Involve patient in regular physical, emotional and social climate (without exertion).
- Advise patient to take High-calorie diet, low sodium, low protein diet (1-1.5 gm /kg/ day) - to prevent hepatic encephalopathy.
- Small, frequent meals may be better tolerated.
- Consider patient preferences.
- Quiet, calm environment and reassuring manner.
- Monitor for associated complications such as hepatic encephalopathy resulting from blood breakdown in the GI tract and delirium related to alcohol withdrawal.
- Teaching and support of patient and family.

Complications

Bleeding-related complications include vascular collapse and hypotension, encephalopathy, aspiration, and sub-acute bacterial peritonitis.

Conclusion

Mortality from a variceal haemorrhage is high (25–50%).Prophylaxis against haemorrhage is crucial. If patients survive a variceal bleed, there is approximately a 70% risk that they will have a further bleed within the following two year. The management of esophageal varices is with a multidisciplinary team that consists of a gastroenterologist, internist, surgeon, invasive radiologist, and an intensivist. The treatment selected depends on the severity of the disease and patient status. Unless the primary cause of portal hypertension is controlled, recurrence is common with all treatments. The prognosis for patients with esophageal varices is guarded. Multiorgan failure, complications from procedures and infections often lead to premature death.

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