ESOPHAGEAL VARICES TREATMENT

Baveno VI – Expert consensus and Baveno VII – Renewing consensus in portal hypertension

Prior to endoscopy

- Intubation is recommended before endoscopy in patients with altered consciousness and those actively vomiting blood.
- IVF and vasopressors if needed to keep MAP >65 mmHg and UO >0.5 ml/Kg/h
    - Short-term albumin administration is indicated for SBP, AKI >stage 1, large-volume paracentesis and HRS-AKI.
- Early administration (before endoscopy) of octreotide 50 mcg bolus infusion followed by continuous infusion of 50 mcg/h x 5 days.
    - Allam J et al.Comparison of 24 vs 72-hour octreotide infusion in acute esophageal variceal hemorrhage - a multi-center, randomized clinical trial. Am J Med Sci 2024: epublished Sept 4th
        - Conclusions: A 24-hour infusion is non-inferior to a 72-hour infusion of octreotide for prevention of re-bleeding in patients with EVH. We propose that shortened octreotide duration may help reduce hospital stay and related costs in these patients.
- Restrictive transfusion strategy (hemoglobin target of 7-8 g/dL).
    - Modifications in hemoglobin target should be considered depending on hemodynamic status, ongoing bleeding, and acute coronary syndrome.
- The aim of the treatment should be focused on lowering portal pressure rather than correcting coagulation abnormalities.
- Conventional coagulation tests, namely, PT/INR and PTT, do not accurately reflect the hemostatic status of patients with advanced liver diseases.
    - PT/INR is a markers of liver function and not of coagulation disorders.
    - Transfusion of FFP is not recommended as it will not correct coagulopathy and may lead to volume overload and worsening of portal hypertension.
- Although there is no evidence that platelet count and fibrinogen levels are correlated with the risk of failure to control bleeding or rebleeding, in case of failure to control bleeding, the decision to correct them should be considered
    - Platelet transfusion is usually recommended when platelet count falls below 30 000.
    - Cryoprecipitate transfusion when fibrinogen <100
- Erythromycin 250 mg, in the absence of contraindications (QT prolongation), is recommended as a prokinetic agent to improve stomach clearance and thus facilitate endoscopy.
- Antibiotic prophylaxis – Ceftriaxone x 7 days.
- PPIs are not recommended is ulcers are ruled out.
- Prevention and treatment of hepatic encephalopathy
    - Lactulose 30 ml TID or enemas with adjustment targeting 2-3 soft stools or Rifaximin 550 mg bid
        - In a prospective RCT, the efficiency of Rifaximin to prevent hepatic encephalopathy in the context of variceal bleeding was found to be similar to that of lactulose with fewer digestive side effects.

Endoscopic treatment

- Endoscopic band ligations as soon as possible (within 12 hours) after initial resuscitation.

Refractory bleeding

- TIPS with polytetrafluoroethylene (PTFE)-covered stents
    - Failure to control variceal bleeding despite combined pharmacological and endoscopic therapy is best managed by salvage PTFE-covered TIPS.
    - Pre-emptive TIPS with polytetrafluoroethylene (PTFE)-covered stents within 72 h (ideally <24 h) is indicated in patients with Child-Pugh class C <14 points or Child-Pugh class B >7 and active bleeding at initial endoscopy or HVPG >20 at the time of bleeding.
    - Hepatic encephalopathy and hyperbilirubinemia at admission should not be considered contraindications.
- In refractory variceal bleeding, balloon tamponade or self-expandable metal stents (SEMS) should be used as a bridge therapy for a more definite treatment such as PTFE covered TIPS.
    - SEMS are as efficacious as balloon tamponade and are a safer option.
- TIPS may be futile in patients with Child-Pugh≥ 14 or with a MELD score >30 and lactate >12 mmol/L unless liver transplantation is envisioned in the short-term.
    - The decision to perform TIPS in such patients should be taken on a case-by-case basis.

Prevention of recurrence

Due to a high risk of recurrent bleeding, it is essential to initiate a secondary prophylaxis after the first episode.

The first-line strategy recommended for secondary prophylaxis is the use of non-selective beta-blockers (NSBBs - propranolol, nadolol or carvedilol) and endoscopic band ligation.

- Use of NSBBs
    - It is associated with a significant reduction in the risk of variceal bleeding or of other decompensating events.
    - Should be used with caution in patients with refractory ascites and should be discontinued if low BP (SBP <90 mmHg or MAP <65 mmHg and/or HRS-AKI.
    - The decision to continue using NSBBs in patients who were receiving them should be made a case-by-case basis with careful dose titration based on close monitoring of the mean arterial pressure and renal function
    - No specific study has addressed the safety and efficacy of starting NSBBs in patients who recover from an episode of ACLF. Therefore, the effect of NSBBs on outcomes is not known
    - If the decision is to initiate NSBBs should be done cautiously, with close monitoring of blood pressure
    - Dose increases should be guided by the mean arterial pressure; below a threshold of 65 mmHg, beneficial effects are limited
        - Carvedilol is the preferred NSBB
        - Has intrinsic anti-alpha adrenergic vasodilatory effects that contribute to its greater portal pressure reducing effect, has greater benefit in preventing decompensation, better tolerance and demonstrated to improve survival
    - In patients with ascites and high-risk varices (large varices 5 mm, or red spot signs, or Child-Pugh C), prevention of first variceal hemorrhage is indicated with NSBBs preferred over endoscopic band ligation.
- Endoscopic band ligation
    - In patients with contraindications or intolerance to NSBBs, endoscopic band ligation is recommended to prevent first variceal bleeding.
    - In patients who bleed despite adherence to NSBBs as primary prophylaxis, adding endoscopic band ligation is recommended

TIPS indications

- It is the treatment of choice in patients who rebleed despite NSBBs and endoscopic band ligation.

- Should be considered in patients with recurrent ascites.
    - Requirement of ≥ 3 large-volume paracenteses within 1 year) irrespective of the presence or absence of varices or history of variceal hemorrhage.
    - In patients who cannot get/tolerate NSBBs or endoscopic band ligation.

Other considerations:

- Patients with ascites who are not on NSBBs should undergo screening endoscopy.
- In patients with ascites, NSBBs should be dose-reduced or discontinued in case of persistently low blood pressure (SBP <90 mmHg or MAP <65 mmHg) and/or HRS-AKI.
    - Once BP returns to baseline and/or HRS-AKI resolves, NSBBs can be re-initiated or re-titrated. If a patient remains intolerant to NSBBs, endoscopic band ligation is then recommended to prevent variceal hemorrhage.
- The use of statins may decrease portal pressure and improve overall survival and should be encouraged in patients with advanced chronic liver disease

Liver transplantation

- Should be discussed when bleeding is not controlled after TIPS insertion and in all cases when liver function is deteriorated based on MELD score.