

Advance in endoscopic treatment of acutegastroesophageal variceal bleeding

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Gastric and esophageal variceal bleeding (GEVB) is a major consequence of chronic liverdisease and is characteristic of its high rebleeding rate and mortality. Prognosticimprovement has been made due to the progressin pharmacological and endoscopic treatment of GEVB. In suspected variceal bleeding, vasoactive drugs and prophylactic antibiotics should be startedas soon as possible, before endoscopy.

Endoscopic treatment, endoscopic varicealligation (EVL) using rubber band is preferred, should be offered to any patient with endoscopy provedEVB. Sclerotherapy may be used if EVL is technically difficult. Vasoactive drugssuch as vasopressin and somatostatinanalogue should be used in combination with endoscopic treatmentand continued for up to 3~5 days. Detachable nylon loop or clips were ever used to ligate the varices. Other novel endoscopic method to treat EVB including argon plasma coagulation, cryotherapy, application of nano-powder and esophageal stenting.

Gastric varices (GV) rarely rupture, however the outcome is worse than rupture of EV. Up to date, the treatment of GV bleeding (GVB) is still sub-optimal in contrast to the treatment of EVB. The general treatment of acute GVB is not different to that of EVB. Various specific methods including injection of tissue glue (cyanoacrylate), sclerosants, thrombin and ligation with rubber bands, detachable nylon loop and steel snares, are used to control GVB and prevent rebleeding. Most of the methods, except endoscopic injection of cyanoacrylate (GVO), were far from ideal and lack of evidence. However, the embolic complications of GVO, either septic & aseptic, were not uncommon. The expertise is required to reduce the embolic complications and instrumental injuries. Whether the better hemostasis can be achieved by double dose vs. single dose, diluted vs. undiluted cyanoacrylate is still an unresolved issue. Another practical issue is whether GV and EV should be treated simultaneously. Recently, EUS-guided GVO using cyanoacrylate and/or coil was reported to be promising.

Transjugular intrahepatic portosystemic stent shunt (TIPSS) is indicated in uncontrollable variceal bleeding or rebleeding after endoscopic intervention. TIPS is also indicated in selected high risk patients with acute EVB. Balloon occluded transvenous retrograde obliteration (BRTO) is used to treat GV with promising results exclusively in Japan, Korea and elsewhere in Asia. Surgery using shunting or non-shunting (devascularization) methods were also found to reduce rebleeding. It is indicated in elective situation for patients with good hepatic reserve and in experienced center to prevent surgical mortality and morbidity in emergency situation.

In summary, the efficacy of specific treatment for GEVB is still sub-optimal. Consecutive



Advances in Digestive Medicine

December 3-6, 2015 | Taipei, Taiwan

innovation of new endoscopic methods and controlled trials are required to further improve the prognosis of GEVB.