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Editorial

Endoscopic Therapy with Histoacryl for Gastric Varies

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INTRODUCTION

Gastric variceal bleeding is a common complication, and is associated with higher morbidity and mortality rates than those seen with hemorrhage from esophageal varices [1]. Therapeutic strategies for gastric variceal bleeding include transjugular intrahepatic portosystemic shunt (TIPS), endoscopic obliterative therapy with cyanoacrylate and balloon-occluded retrograde transvenous obliteration (B-RTO). In this article, we review the treatment of gastric varices, including the clinical use of endoscopic obliterative therapy with cyanoacrylate for emergency control of acute gastric variceal bleeding classified as gastroesophageal varices type 2 (GOV2) or isolated gastric varices 1 (IGV1), based on the Sarin endoscopic classification [2].

Treatment of gastric varices by Histoacryl

Acute gastric variceal bleeding is a medical emergency requiring intensive care (Figure 1). Currently, therapeutic strategies for gastric variceal bleeding include TIPS, cyanoacrylate endoscopic obliterative therapy and B-RTO, but the optimal management of bleeding gastric varices remains controversial due to a lack of randomized, controlled trial. N-butyl-2-cyanoacrylate (Histoacryl®, B.Braun Dexon GmbH Spangenberg, Germany) is a tissue glue monomer that polymerizes and solidifies instantly upon contact with blood, resulting in rapid hemostasis. Soehendra et al. were the first to report the usefulness of Histoacryl in the treatment of bleeding gastric varices, which have a high mortality rate [3]. Endoscopic obliterative therapy with Histoacryl is useful for emergency control of acute gastric variceal bleeding. It is now the first-choice treatment worldwide for the obliteration of bleeding gastric varices [4-8].

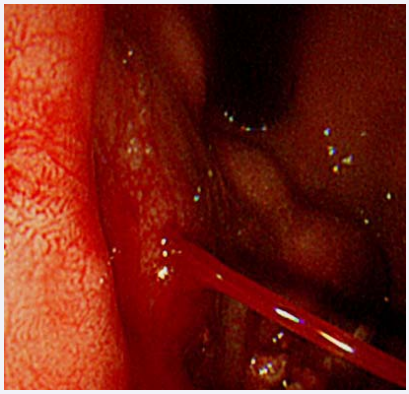

Figure 1 Acute gastric variceal bleeding.

High rates of long-term rebleeding after endoscopic obliterative therapy with Histoacryl have been reported [5,7,9]. However, recent articles conclude that endoscopic obliterative therapy with Histoacryl is a highly effective modality for immediate hemostasis of gastric variceal bleeding and is associated with an acceptable rebleeding rate [10,11]. Kumar et al. reported that undiluted Histoacryl was effective in achieving initial hemostasis in case of actively bleeding gastric varices, and was very safe and not associated with embolic complications [10]. In many institutions, Histoacryl is mixed with a contrast medium, radiopaque Lipiodol®, (Guerbet Asia Pacific, Tsuen Wan, Hong Kong), to allow radiologic monitoring during and after injection. To prevent Histoacryl from solidifying too quickly, dilution with Lipiodol is necessary. Major complications of the procedure include ulceration and recurrent bleeding, although more serious complications, including embolization to the brain [12], portal vein [13], lung [14-19], and spleen [19,20] have also been reported. Risk factors for extravariceal embolization associated with Histoacryl treatment include a large injection volume, dilution of radiolucent Histoacryl with radiopaque Lipiodol, speed of injection, and the presence of shunts [18,21,22]. To avoid embolic complications as much as possible, we recommend that endoscopists aim to use the smallest volume of Histoacryl necessary for obliteration, and to use Histoacryl in the most concentrated form practicable.

Because endoscopic obliterative therapy with Histoacryl has the potential risk of serious complications, complying with the standard injection method is important to reduce the risks, and Sato et al used Histoacryl at a concentration of 70% in Lipiodol and a volume of 0.7-1.4ml per injection to minimize embolic risk [23].

CONCLUSION

Endoscopic obliterative therapy with Histoacryl is the treatment of choice for gastric variceal bleeding. By following a standard technique, this endoscopic obliterative therapy can be performed safety and effectively.

REFERENCES

1. Trudeau W, Prindiville T. Endoscopic injection sclerosis in bleeding gastric varices. Gastrointest Endosc. 1986;32:264-268.
2. Sarin SK, Lahoti D, Saxena SP, Murthy NS, Makwana UK. Prevalence, classification and natural history of gastric varices: a long-term follow-up study in 568 portal hypertensive patients. Hepatology. 1992; 16: 1343-1349.
3. Soehendra N, Nam VC, Grimm H, Kempeneers I. Endoscopic obliteration of large esophagogastric varices with bucrylate. Endoscopy. 1986; 18: 25-6.
4. Ogawa K, Ishikawa S, Naritaka Y, et al. Clinical evaluation of endoscopic injection sclerotherapy using n-butyl-2-cyanoacrylate for gastric variceal bleeding. J Gastroenterol Hepatol 1999; 14: 245-50.
5. Huang YH, Yeh HZ, Chen GH, Chang CS, Wu CY, Poon SK, et al. Endoscopic treatment of bleeding gastric varices by N-butyl-2-cyanoacrylate (Histoacryl) injection: long-term efficacy and safety. Gastrointest Endosc. 2000; 52: 160-7.
6. Dhiman RK, Chawla Y, Taneja S, Briswas R, Sharma TR, Dilawari JB. Endoscopic sclerotherapy of gastric variceal bleeding with N-butyl-2-cyanoacrylate. J Clin Gastroenterol. 2002; 35: 222-7.
7. Akahoshi T, Hashizume M, Shimabukuro R, Tanoue K, Tomikawa M, Okita K, et al. Long-term results of endoscopic Histoacryl injection sclerotherapy for gastric variceal bleeding: a 10-year experience. Surgery. 2002; 131: 176-81.
8. Fry LC, Neumann H, Olano C, Malfertheiner P, Monkemuller K. Efficacy, complications and clinical outcomes of endoscopic sclerotherapy with N-butyl-2-cyanoacrylate for bleeding gastric varices. Dig Dis 2008; 26: 300-3.
9. Lo GH, Liang HL, Chen WC, Chen MH, Lai KH, Hsu PI, et al. A prospective, randomized controlled trial of transjugular intrahepatic portosystemic shunt versus cyanoacrylate injection in the prevention of gastric variceal rebleeding. Endoscopy. 2007; 39: 679-85.
10. Kumar A, Singh S, Madan K, Garg PK, Acharya SK. Undiluted N-butyl cyanoacrylate is safe and effective for gastric variceal bleeding. Gastrointest Endosc. 2010; 72: 721-7.
11. Monsanto P, Almeida N, Rosa A, Maçôas F, Lérias C, Portela F, et al. Endoscopic treatment of bleeding gastric varices with histoacryl (N-butyl-2-cyanoacrylate): a South European single center experience. Indian J Gastroenterol. 2013; 32: 227-31.
12. See A, Florent C, Lamy P, Levy VG, Bouvry M. Cerebrovascular accidents after endoscopic obturation of esophageal varices with isobutyl-2-cyanoacrylate in 2 patients. Gastroenterol Clin Biol. 1986; 10: 604-7.
13. Moustafa I, Omar MM, Nouh A. Endoscopic control of gastric variceal bleeding with butyl cyanoacrylate in patients with schistosomiasis. J Egypt Soc Parasitol. 1997; 27: 405-10.
14. Thakeb F, Salama Z, Salama H, Abdel Raouf T, Abdel Kader S, Abdel Hamid H. The value of combined use of N-butyl-2-cyanoacrylate and ethanolamine oleate in the management of bleeding esophagogastric varices. Endoscopy. 1995; 27: 358-64.
15. Takasugi JE, Shaw C. Inadvertent bucrylate pulmonary embolization: a case report. J Thorac Imaging. 1989; 4: 71-3.
16. Moustafa I, Omar MM, Nouh A. Endoscopic control of gastric variceal bleeding with butyl cyanoacrylate in patients with schistosomiasis. J Egypt Soc Parasitol. 1997; 27: 405-10.
17. Roesh W, Rexroth G. Pulmonary, cerebral and coronary emboli during bucrylate injection of bleeding fundic varices. Endoscopy. 1998; 30: S89-90.
18. Hwang SS, Kim HH, Park SH, Kim SE, Jung JI, Ahn BY, et al. N-butyl-2-cyanoacrylate pulmonary embolism after endoscopic injection sclerotherapy for gastric variceal bleeding. J Comput Assist Tomogr. 2001; 25: 16-22.
19. Tan YM, Goh KL, Kamarulzaman A, Tan PS, Ranjeev P, Salem O, Vasudevan AE, et al. Multiple systemic embolisms with septicemia after gastric variceal obliteration with cyanoacrylate. Gastrointest Endosc. 2002; 55: 276-8.
20. Cheng PN, Sheu BS, Chen CY, Chang TT, Lin XZ. Splenic infarction after histoacryl injection for bleeding gastric varices. Gastrointest Endosc. 1998; 48: 426-7.
21. Seewald S, Sriram PV, Naga M, Fennerty MB, Boyer J, Oberti F, et al. Cyanoacrylate glue in gastric variceal bleeding. Endoscopy. 2002; 34: 926-32.
22. Kok K, Bond RP, Duncan IC, Fourie PA, Ziady C, van den Bogaerde JB, et al. Distal embolization and local vessel wall ulceration after gastric variceal obliteration with N-butyl-2-cyanoacrylate: a case report and review of the literature. Endoscopy. 2004; 36: 442-6.
23. Sato T, Yamazaki K. Evaluation of therapeutic effects and serious complications following endoscopic obliterative therapy with Histoacryl. Clin Exp Gastroenterol. 2010; 3: 91-5.

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