

## A Case of Portal and Splenic Vein Thrombosis After Histoacryl Injection Therapy in Gastric Varices

Variceal injection of the tissue adhesive Histoacryl (*N*-butyl-2-cyanoacrylate, enbucrilate) has been more effective than conventional sclerosants in the treatment of acute gastric variceal bleeding (1,2). However, it can cause several complications, such as retrosternal pain, fever, esophageal stenosis, cerebral embolism, and rebleeding due to detachment of the solidified compound (1,3,4). We present here a case of portal and splenic vein thrombosis that developed after injection of a Histoacryl-Lipiodol mixture into gastric varices without fluoroscopic guidance.

A 59-year-old man was referred due to hematemesis and melena. Endoscopy disclosed esophageal and gastric varices. The esophageal varices were treated by endoscopic varix ligation, and 0.7 ml of a Histoacryl-Lipiodol mixture (volume ratio: 0.5 ml:0.8 ml) was injected into five points in the gastric varices under fluoroscopic guidance. However, the follow-up endoscopy the next day showed blood oozing at some of the injection sites, and we therefore reinjected 0.7 ml of the mixture at three points in the varices, without fluoroscopic guidance. Despite the reinjection of Histoacryl, rebleeding was again observed at the reinjection sites three days later. This was controlled by an additional injection of 1 ml of the mixture at two points, without fluoroscopic guidance. After these three sessions of Histoacryl injection, a linear and highly radiopaque density appeared in the upper abdomen on a plain abdominal radiograph (Figure 1). Abdominal sonography disclosed linear and hyperechoic densities, suggestive of Histoacryl-Lipiodol compounds, in the portal and splenic veins (Figure 2). The patient experienced left upper quadrant abdominal pain and intermittent high fever of up to 39°C, which continued for more than two weeks. Portal and splenic vein thrombosis after intravariceal injection of Histoacryl may have been related to the concentration and quantity of the tissue adhesive that was injected into the varices. However, it is possible that this thrombotic complication might arise when the procedure is performed without fluoroscopic guidance, even though the concentration and volume of the mixture are adequate, as in the case of our patient.

It is important for endoscopists to be aware of this potential complication after Histoacryl injection, particularly when a large amount of the mixture is injected without fluoroscopic guidance.

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### References

1. Soehendra N, Grimm H, Maydeo A, et al. Endoscopic sclerotherapy – personal experience. *Hepato-Gastroenterol* 1991; 38: 220–3.
2. Feretis C, Tabakopoulus D, Benakis P, et al. Endoscopic hemostasis of esophageal and gastric variceal bleeding with Histoacryl. *Endoscopy* 1990; 22: 282–4.
3. Soehendra N, Grimm H, Maydeo A, et al. Endoscopic obliteration of fundal varices. *Can J Gastroenterol* 1990; 4 (9): 643–6.

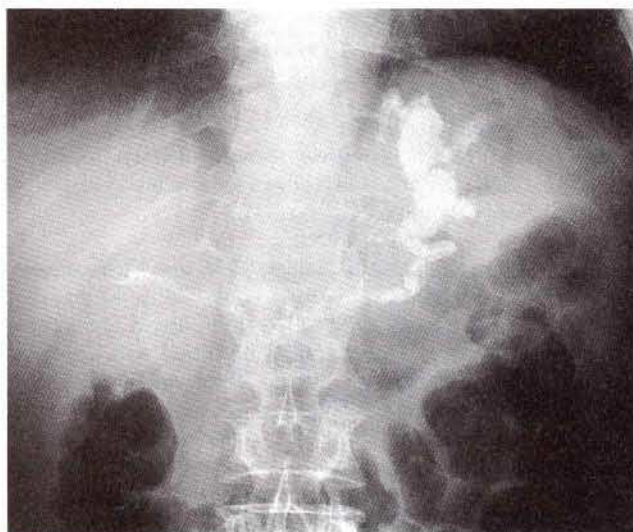


Figure 1: A linear radiopaque density is seen along the portal and splenic vein on a plain abdominal radiograph.

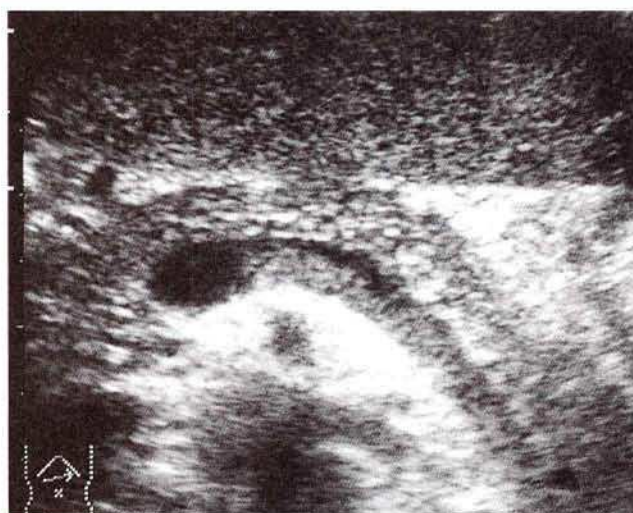


Figure 2: A linear hyperechoic shadow is seen along the splenic vein on ultrasonography.

4. Soehendra N, Grimm H, Nam VC, et al. N-butyl-2-cyanoacrylate: A supplement to endoscopic sclerotherapy. *Endoscopy* 1987; 19: 221–4.

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