
Pulmonary, Cerebral and Coronary Emboli During Bucrylate Injection of Bleeding Fundic Varices

Bucrylate (Histoacryl) is used more or less routinely to arrest bleeding from fundic varices; some authors, such as Soehendra et al., even advise the instillation of the tissue glue into esophageal varices (1). According to the instructions for use, administration to the intima and media of

blood vessels should be avoided on account of the risk of thrombosis and damage to the vascular wall, but this is precisely the intention in the management of massive variceal hemorrhage.

There are some reports in the literature of adverse effects, such as thrombosis of the portal and splenic vein (2) or pulmonary emboli, after embolization of cerebral arteriovenous malformations with liquid acrylates (3), but commonly cyanoacrylate tissue adhesive only causes fever for a few hours. We would like to draw attention to additional life-threatening complications in the case of passage of the rapidly hardening material into the systemic circulation.

A 66-year-old woman was suffering from polycythemia vera and developed mesenteric vein thrombosis 15 years ago. The patient was admitted 2 years later because of massive esophageal variceal bleeding, which was successfully treated by endoscopic sclerosing therapy using ethoxysclerol. She was symptom-free and did not attend follow-up sessions until, in 1998, she experienced acute upper gastrointestinal hemorrhage caused by bleeding fundic varices (Figure 1). The patient was treated with Histoacryl and Lipiodol (ratio 1:1; 3 × 1 ml). The bleeding was successfully arrested, and recurrence was not noted. However, the patient became comatose and further examination revealed that she had multiple emboli in the lung, the cerebrum, the coronary arteries (causing acute myocardial infarction), and the spleen. Foreign material in the form of small emboli could be shown in all of these organs, by routine radiography or computed tomography. A plain radiograph of the abdomen revealed a thrombosed gastric varix (Figure 2,3).

It appeared that embolic material transported to the lung had passed through arteriovenous pulmonary shunts into the systemic circulation, since an open foramen ovale was ruled out by echocardiography. The patient is still severely handicapped by the cerebral emboli whereas all other locations showed an uneventful recovery.

Since Histoacryl injection is being used increasingly to control bleeding from oesophagogastric varices, we would like to warn that, at least in elective procedures, one should rule out a patent foramen ovale; this is seen in 18% of patients in routine echocardiography (4). Pulmonary emboli might occur fairly commonly during injection of N-butyl-2-cyanoacrylate without causing major symptoms or concern; however, paradoxical cerebral emboli should be taken into account when informing the patient about the possible risks of Histoacryl therapy of gastric varices (5).

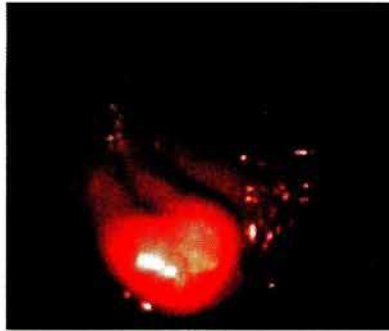


Figure 1: Varix after injection of Histoacryl.

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Figure 2: Thrombosed varix (Histoacryl:Lipiodol 1:1) 1 week after injection.

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