

### Severe Complications Arising from Oesophageal Varix Ligation with the Stiegmann-Goff Set

We report on two cases of severe complications caused by the overtube during variceal ligation using Stiegmann and Goff's method (1, 2). In the first, a 32-year-old female with alcoholic liver cirrhosis required a transfusion following three elective sclerosing treatments in June 1993, and we decided to intervene a fourth time by ligating the third-degree varices using the Stiegmann-Goff elastic band method (3). In the somewhat restless patient, a shallow, pocket-like shearing-off of the mucosa (size: about 4 cm<sup>2</sup>) occurred in the middle third of the oesophagus at the blunt end of the correctly placed overtube, leading to massive recurrence of bleeding. Emergency portosystemic shunt surgery was only avoided by treatment with a Sengstaken-tube and a total of four endoscopic interventions (sclerotherapy and intubation). Clinically, the patient continued to have melena due to bleeding relapses from her oesophageal varices, and consequently in August 1993 (two and a half months after the overtube complication), a TIPS (transjugular intrahepatic portosystemic shunt) stent was inserted and led to a nearly complete disappearance of oesophageal varices. Eight weeks after the TIPS stent placement, we still found a defect of the mucosa (3 cm in diameter) which was deep, but smooth, as residual evidence of the shearing off by the overtube (Figure 1). In January 1994, the second patient, a 68-year-old female developed severe gastrointestinal bleeding from oesophageal varices as a result of her liver cirrhosis which was due to autoimmune chronic active hepatitis. During the ligation process, the mucosa in the area of the upper oesophageal sphincter was deeply sheared off; this led to significant oozing haemorrhage. Bleeding ceased spontaneously after placement of a gastric catheter, and no further treatment was required. As in the above-mentioned cases, the problems were apparently caused by the length of the overtube, as well as the shape of the proximal and distal ends of the overtube. Because the endoscope is considerably narrower than the internal overtube's diameter, there is obviously a possibility of mucosal invagination which can lead to tearing and shearing (Figure 2). In the worst case, an oesophageal rupture, as described by Goldschmiedt et al., might occur (4). In addition, during repeated insertion of the endoscope, safe and accurate positioning of the overtube can be hampered by missing the grooves for the teeth. In restless patients, serious life-threatening complications can occur due to movement of the overtube. Although insertion of the overtube via bougie may be safer (5), it will not, however, prevent the mucosa from getting incarcerated with the endoscope in situ. We therefore propose the following changes in overtube: the proximal end should have grooves for the teeth; the distal end should be bulb-shaped to reduce the possibility of mucosal invagination; and finally, the tube should be 20–21 cm in length, which should be adequate for safe bridging of the upper oesophageal sphincter in adults.

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**Figure 1:** Shallow, pocket-like shearing-off of the mucosa in the middle third of the oesophagus after Stiegmann-Goff overtube procedure.



**Figure 2:** Stiegmann-Goff overtube comprising an endoscope (Olympus, GIF D 10); note the left between endoscope and the overtube's inner wall.

#### References

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