

Freitagsfortbildung Ärzte / Pflege

Endoscopic treatment of variceal upper gastrointestinal bleeding

06.05.22 R.Sarraj



Case

- It's 2 am¹

- 56 yo m
varices

- Hemate

- Hemod

- OT intu



IT'S ON
TIME TO MAKE THE MAGIC HAPPEN

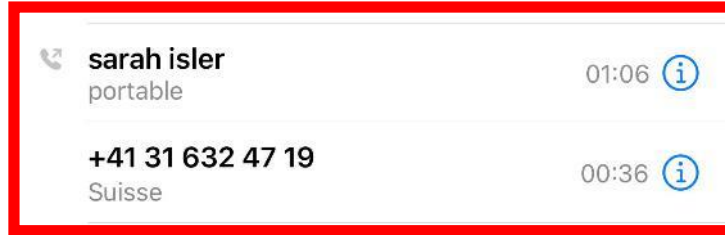
geal + fundic

fusion

1.Mann NS et al. In cirrhotic patients variceal bleeding is more frequent in the evening. *Hepatogastroenterology*. 1999

Case R.B

- It's 2 am



Case R

- It's 2 a
- ~~56 yo~~ (
- ~~+ fun~~
- Hemat
- Hemoc
- OT int



geal

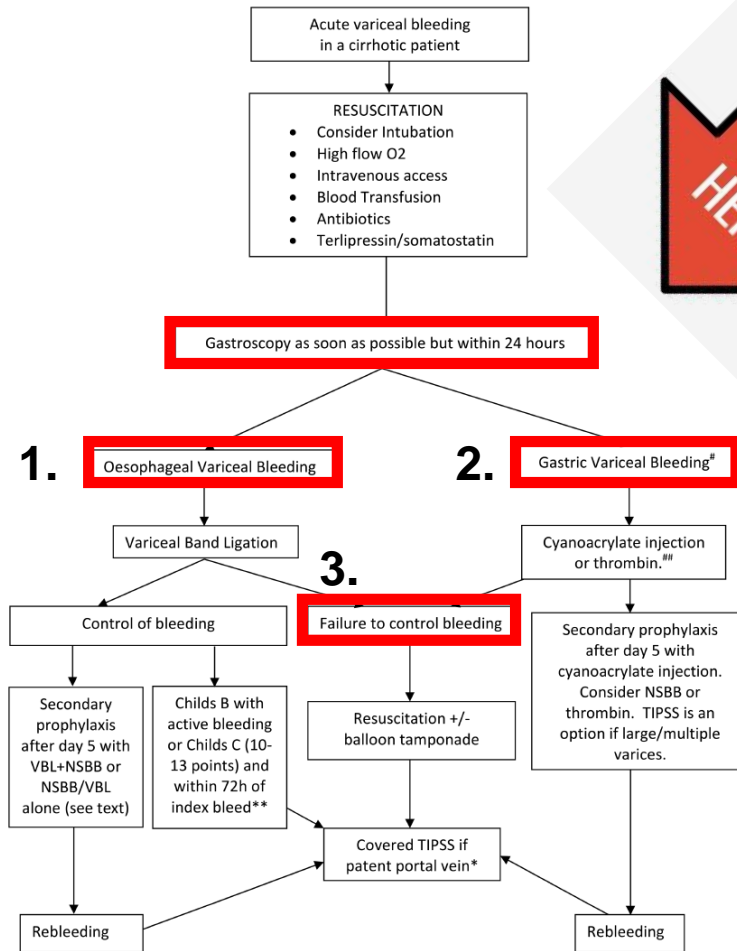
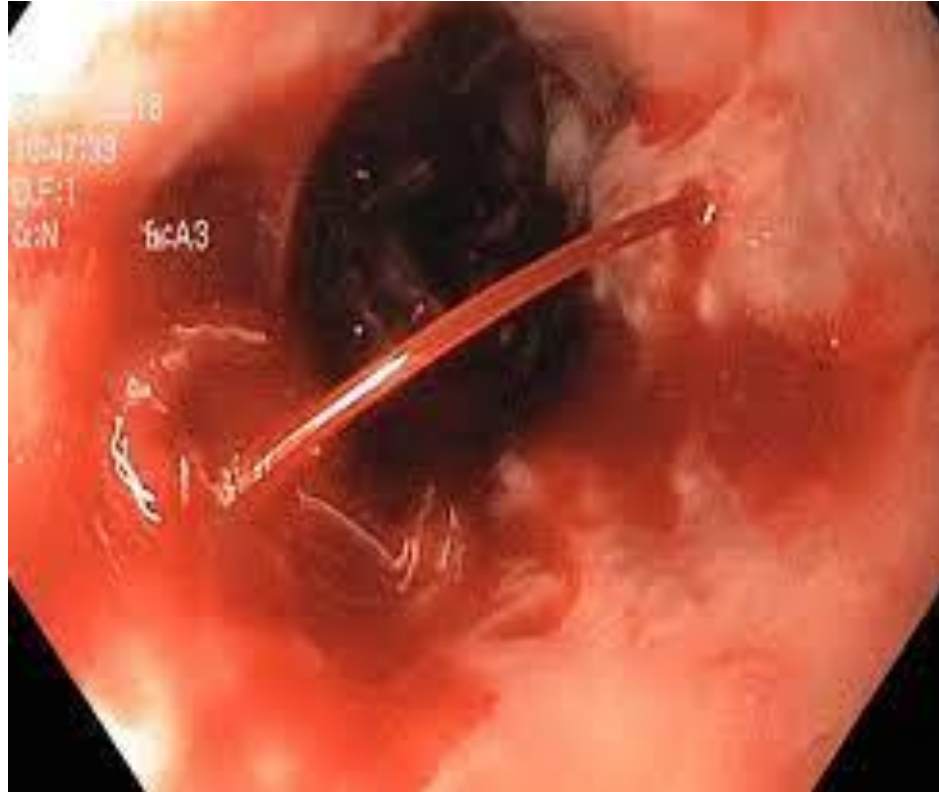


Figure 3 Algorithm for the management of acute variceal bleeding. TIPSS, transjugular intrahepatic portosystemic stent shunt.

Tripathi D, et al. Gut 2015

Oesophageal variceal bleeding



BSG

Variceal band **ligati**
grade A).

ESGE

Ligation is the rec^c
bleeding (A1).

Baveno VII

Ligation is the rec^c
bleeding. (A.1)



method (level 1a,

pathi D, et al. Gut 2015

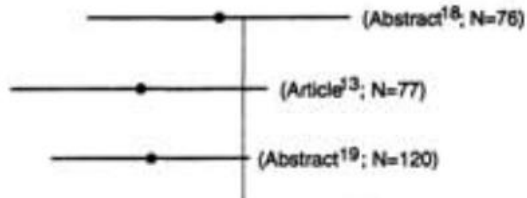
esophageal variceal

y International Open 2020

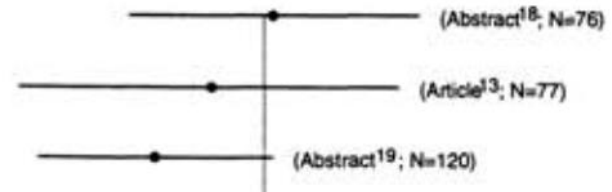
esophageal variceal

ournal of Hepatology 2022

Favors Ligation Favors Sclerotherapy



Favors Ligation Favors Sclerotherapy



Sclerotherapy has been replaced by VBL and should no longer be offered as standard of care in acute variceal haemorrhage.

Tripathi D, et al. Gut 2015.

Figure 1. Rebleeding in trials comparing ligation with sclerotherapy in the treatment of esophageal variceal bleeding.

Figure 2. Mortality in trials comparing ligation with sclerotherapy in the treatment of esophageal variceal bleeding.

Annals of Internal Medicine 1995

Multi Band Ligator



Handle with winding drum



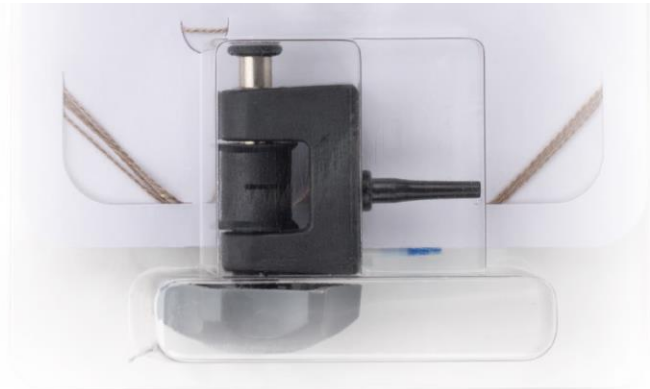
Ligator cartridge



Pull catheter



Irrigation needle

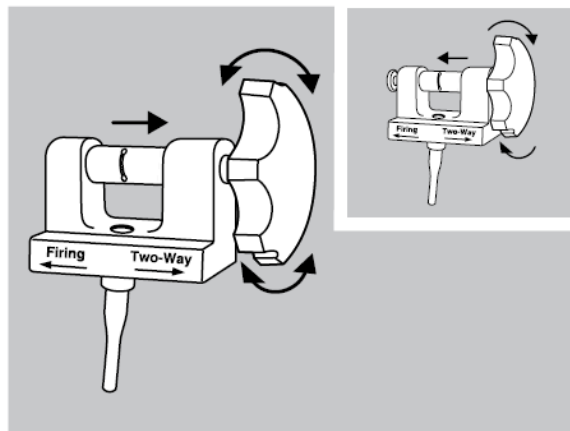


MTW[®]
Endoskopie Manufaktur

Scope Compatibility

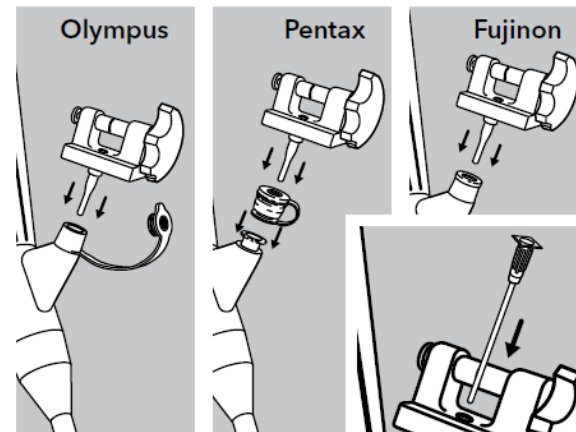
Order No.	Endoscope Outer Diameter
MBL-U-4	8.6 mm - 11.3 mm
MBL-U-6	
MBL-U-6-F	
MBL-U-10	
MBL-6-OV	9.5 mm - 11.5 mm
MBL-10	
MBL-4	9.5 mm - 13 mm
MBL-6	
MBL-4-XL	11 mm - 14 mm
MBL-6-XL	
MBL-6-XL-C	
MBL-6-XS	8.6 mm - 9.2 mm

System Prep 1



The firing position allows the handle to be rotated in the forward direction only. The **two-way position** allows the handle to rotate in both directions.

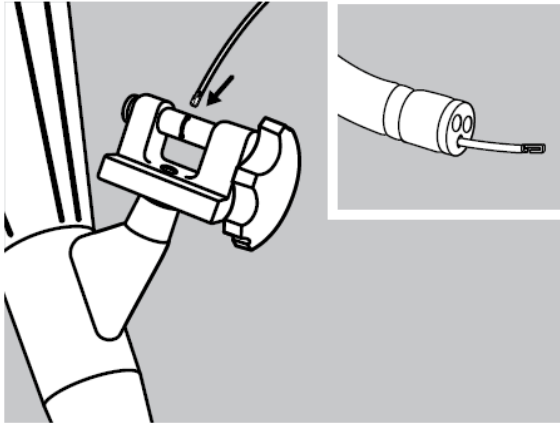
System Prep 2



Insert the ligator handle into the endoscope accessory channel.

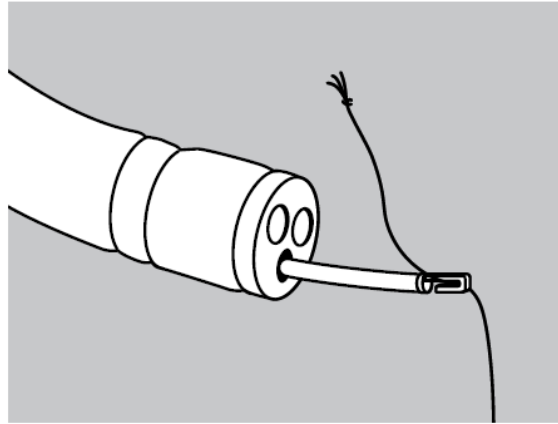
Note: The irrigation adapter may be used to puncture the white self-sealing valve prior to introducing the loading catheter.

System Prep 3



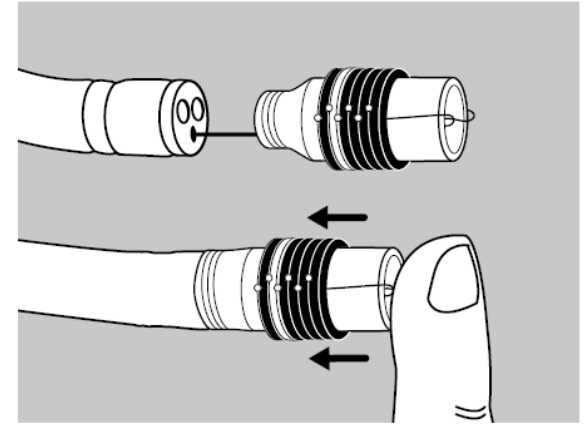
Introduce either end of the loading catheter through the white seal in the ligator handle and advance, in short increments, until it exits the tip of the endoscope.

System Prep 4



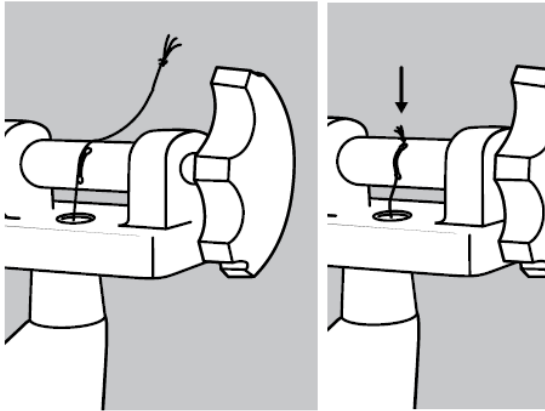
Attach the trigger cord, leaving approximately 2 cm of cord between the knot and the hook. Withdraw the loading catheter and trigger cord up through the endoscope and out through the ligator handle.

System Prep 5



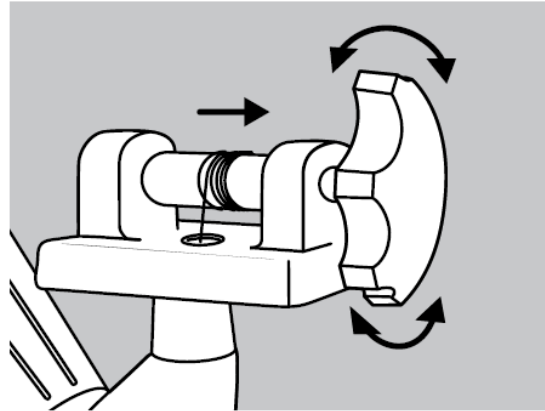
Secure friction fit adapter of the barrel to the tip of the endoscope, advance as far as possible. **Note:** Failure to do so may result in barrel dislodgement. Avoid bands while pushing. When placing the barrel onto the distal end of the endoscope, ensure trigger cord does not become pinched between the barrel and endoscope.

System Prep 6



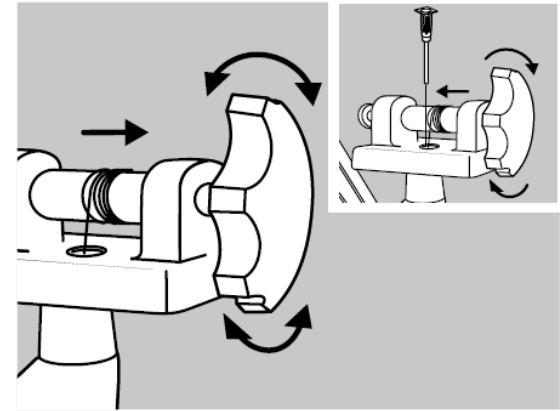
Place the trigger cord into the slot on the spool of the ligator handle and pull down until the knot is seated in the hole of the slot. The knot **must** be seated into the hole for the handle to function properly.

System Prep 7



With the handle in the **two-way position**, slowly rotate the handle clockwise to wind the trigger cord onto the handle spool. **Note:** Care must be exercised to avoid deploying a band while winding the trigger cord.

Instructions for Ligation



With handle in the **two-way position**, introduce the endoscope. **After intubation** place the handle in the **firing position**. Visualize the selected varix or hemorrhoid and aspirate into the Opti-Vu barrel. Maintain suction, deploy the band by rotating the ligator handle clockwise until band release is **felt**. If irrigation is necessary, insert irrigation adapter into the white seal of the handle.



Ligation of Esophageal Varices



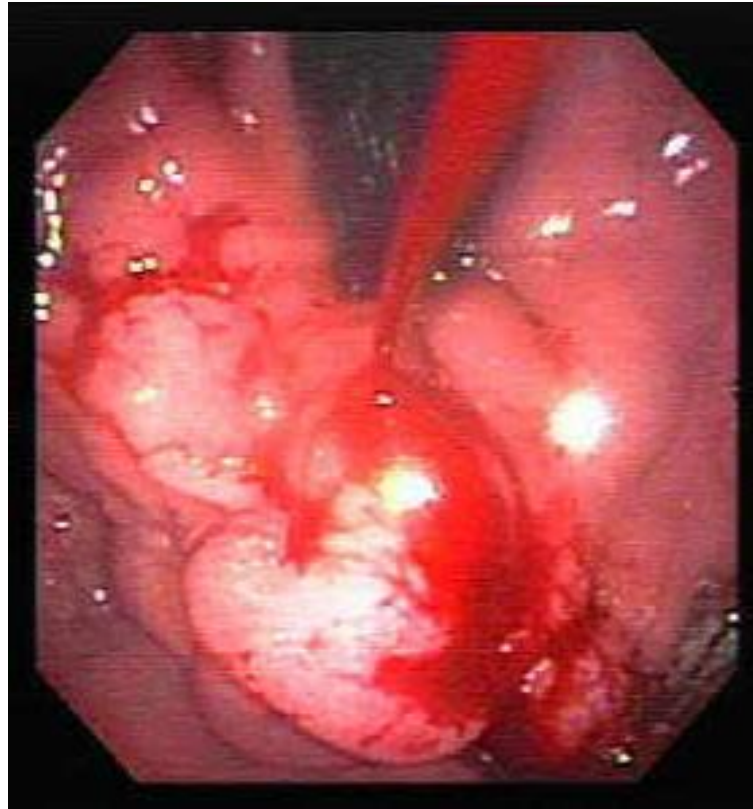
Shou-jiang Tang
University of Mississippi Medical Center

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Tips and Tricks

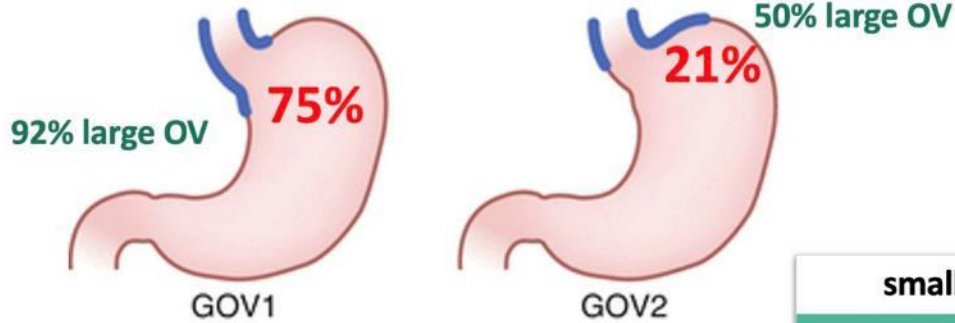
- Ligate the bleeding or the nipple
- If blind → apply pressure or ligate EGJ
- Place your cap
- Keep on sucking!
- Use the right Knob

Gastric variceal bleeding

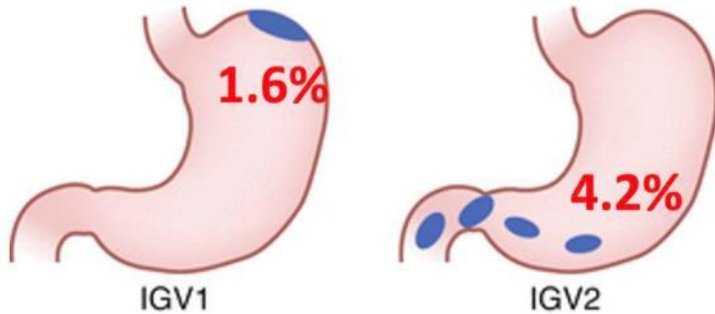


Sarin's classification for GV

Gastroesophageal varices (GOVs)



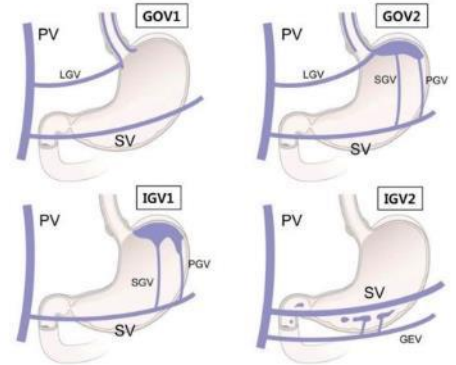
Isolated gastric varices (IGVs)



mostly after GV and EV obliteration

small	< 5 mm
medium	5-10 mm
large	> 10 mm

- 50% with hepatic cirrhosis
- presence correlates with HC severity:
 - Child A = 45%
 - ▼
 - Child C = 85%



- **BSG** : 1.1. Gastric varices (level 2)
1.2.1. We recommend (level 1a, grade I)
- **ESGE** : Endoscopic cyanoacrylate injection for gastric varices (IGV) that extend beyond the cardia.
- **Baveno VII**: Endoscopic butylcyanoacrylate injection for isolated gastric varices that extend beyond the cardia.



or oesophageal varices (IGV):
cyanoacrylate injection

Endoscopic butyl-
cyanoacrylate injection for
isolated gastric
varices (GOV2) that
extend beyond the cardia.
Journal of Hepatology 2020

Endoscopic N-butyl-
cyanoacrylate injection for
isolated gastric varices that
extend beyond the cardia.

Endoscopic butylcyanoacrylate injection for isolated gastric varices that extend beyond the cardia. (B.2) Roberto de Franchis et al. *Journal of Hepatology* 2022



Cyanoacrylate Glue in Gastric Variceal Bleeding

Table 1 Equipment needed

Large-channel endoscope (3.7-mm or 6-mm working channel)

Additional suction unit for oropharyngeal suction to prevent aspiration

Water irrigation pump

Injection catheters (needle: \varnothing 0.8 mm, length 8 mm)

Lipiodol® Ultra Fluid

Histoacryl® or Glubran®

Distilled water

2-ml syringes with Luer lock fitting

Goggles for eye protection

Seewald S et al. Cyanoacrylate Glue in Gastric Variceal Bleeding · Endoscopy 2002



Figure 1 The Histoacryl®-Lipiodol® mixture (1 ml) is injected intravariceally. As the varix is filled, bleeding stops and the glue spills from the rupture site

Seewald S et al. Endoscopy 2002

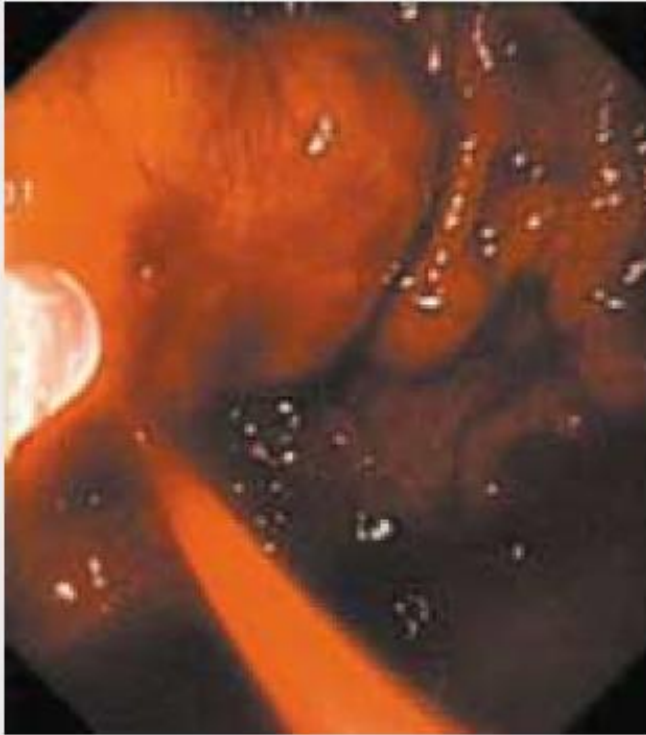


Figure 2 Massive bleeding from a large fundic varix. The injection catheter is targeted upon the bleeding varix

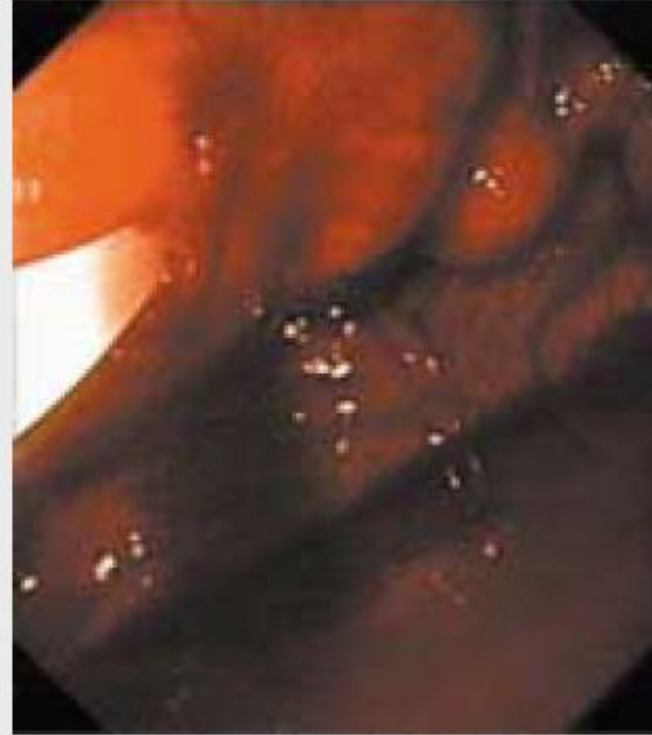


Figure 3 The endoscopy assistant pushes the needle out from the outer sheath and the varix is punctured

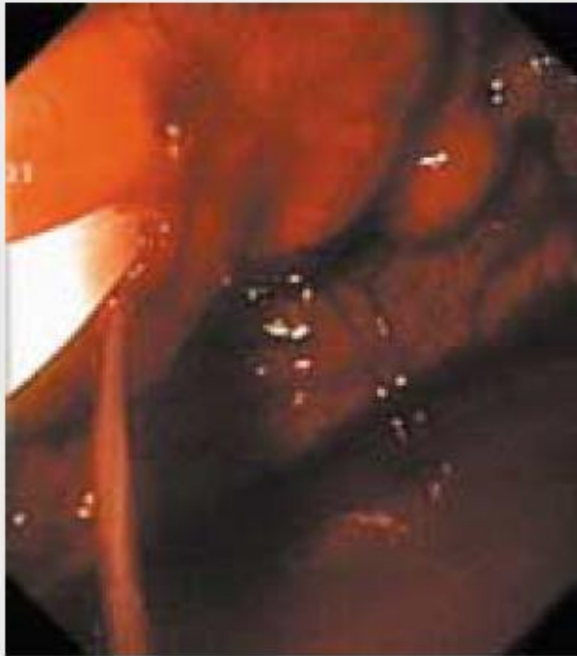


Figure 4 Histoacryl®-Lipiodol® mixture (1 ml) is injected, immediately followed by 0.8 ml distilled water. As the varix is filled, the glue spills from the rupture site

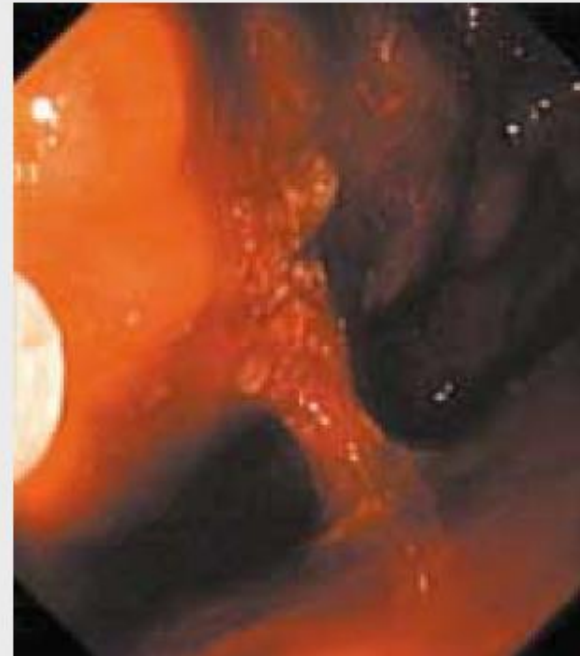


Figure 5 The endoscopy assistant announces the end of the second injection, retracts the needle into the outer sheath and the endoscopist removes the injector from the varix. Rinsing of the catheter with distilled water follows immediately, to keep the needle patent

Seewald S et al. Endoscopy 2002

Tips and Tricks

- Keep the needle in place 20 sec after injection

- Disconnect suction during injection



Tools and Techniques

Use of n Butyl 2 cyanoacrylate for Gastric Variceal Bleed

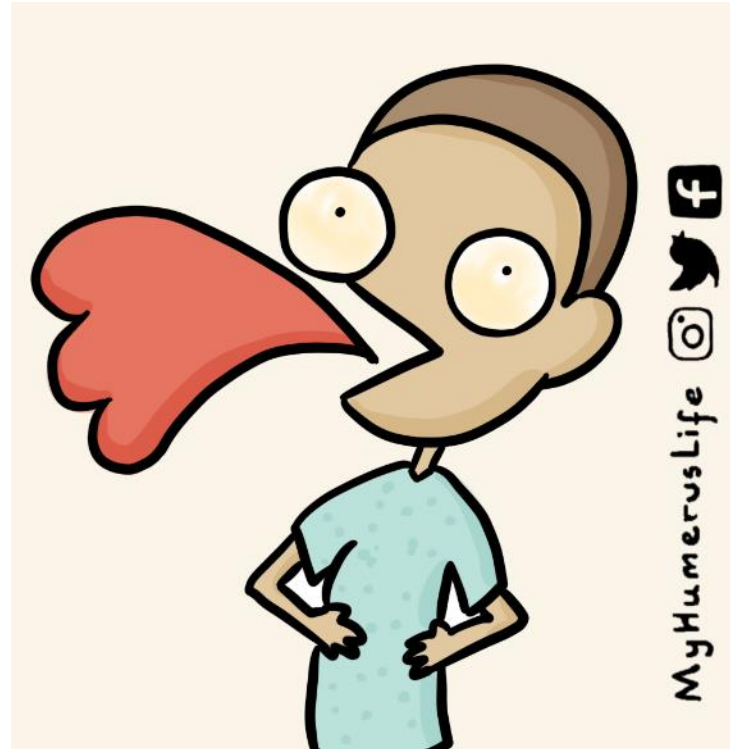
-

A modified Technique without using lipiodol

Technical complications and tips

- Paravariceal injection
- Embolism
- Needle sticking in the varix
- Needle blockage
- Adherence of glue to the endoscope
- Glue into perator eyes

Failure to control bleeding



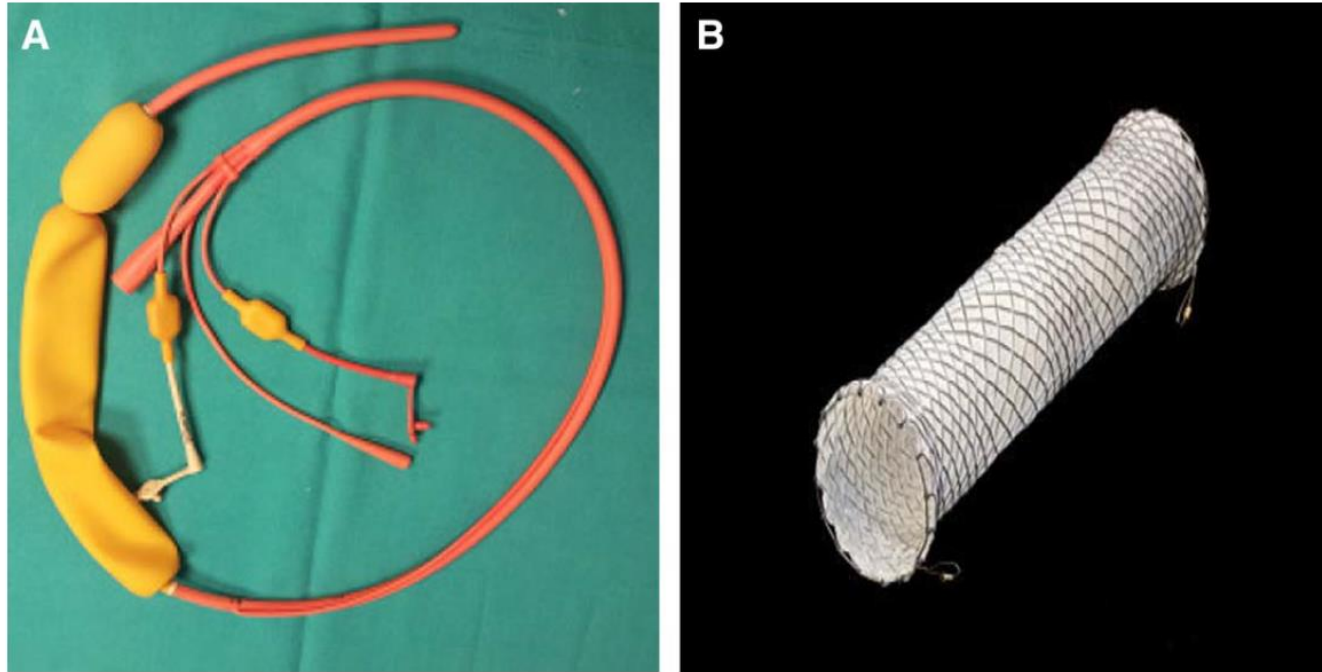


FIG. 1. Devices used in the study. (A) Four-lumen Sengstaken-Blakemore tube. The lumens correspond to gastric balloon, esophageal balloon, gastric aspiration, and supraglottic aspiration. (B) SX-ELLA Danis stent (ELLA-CS, Hradec Kralove, Czech Republic) completely expanded (25 mm of diameter). There were two retrieval loops at both stent ends.

- **BSG** : If bleeding is difficult to control, a Sengstaken– Blakemore tube should be inserted until further endoscopic treatment, TIPSS or surgery is performed depending on local resources and expertise (level 1b, grade B). *Tripathi D, et al. Gut 2015*
- **ESGE** : Balloon tamponade, given the high incidence of its severe adverse events, should only be used in refractory oesophageal bleeding, as a temporary “bridge” (for a maximum of 24 h) with intensive care monitoring and considering intubation, until definitive treatment can be instituted
 - Data suggest that **self-expanding covered esophageal metal stents may be as efficacious and a safer option than balloon tamponade** in refractory oesophageal variceal bleeding.
Karstensen John Gásdal et al. Endoscopy International Open 2020
- **Baveno VII** : In refractory variceal bleeding, balloon tamponade or selfexpandable metal stents (SEMS) should be used as a bridge therapy to a more definite treatment such as PTFE covered TIPS. **SEMS are as efficacious as balloon tamponade and are a safer option** *Roberto de Franchis et al. Journal of Hepatology 2022*

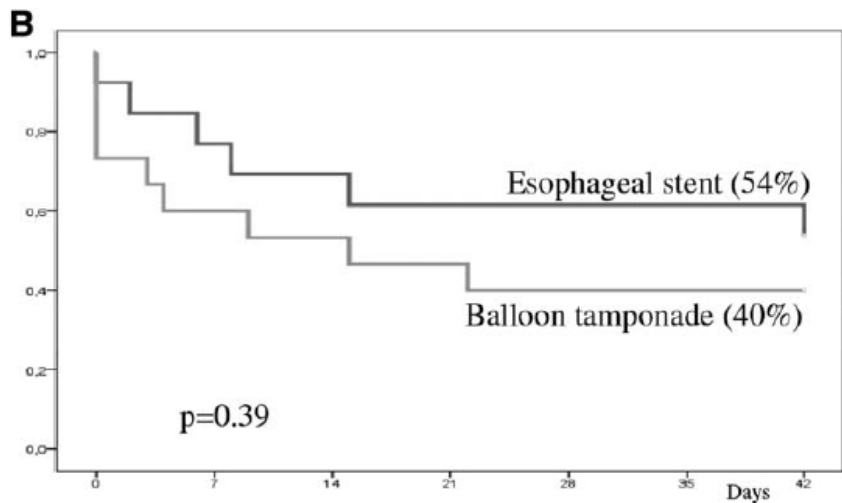
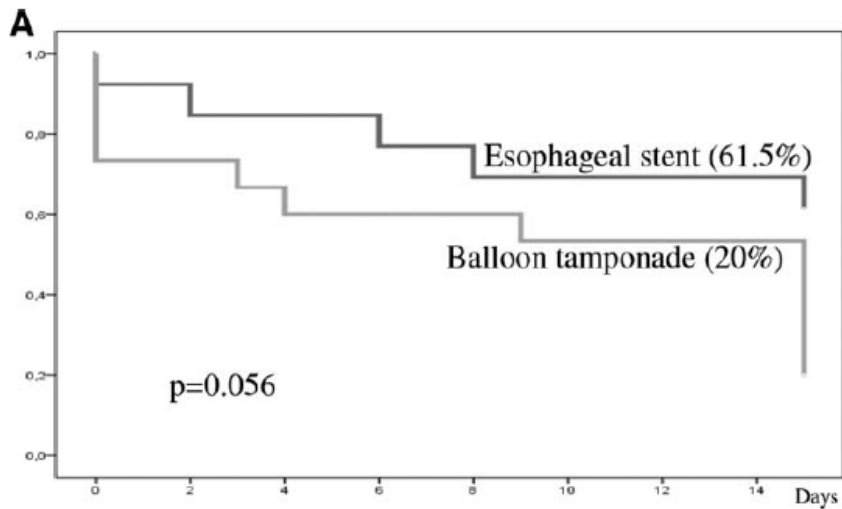
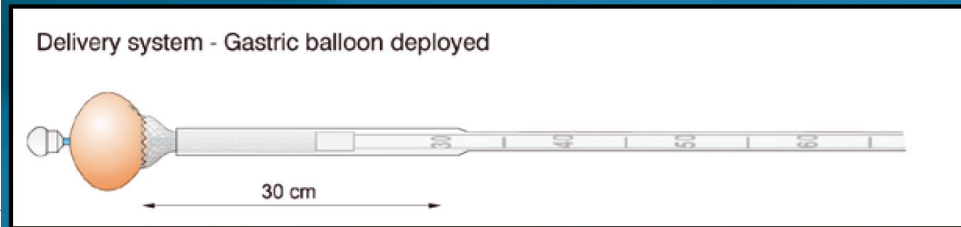
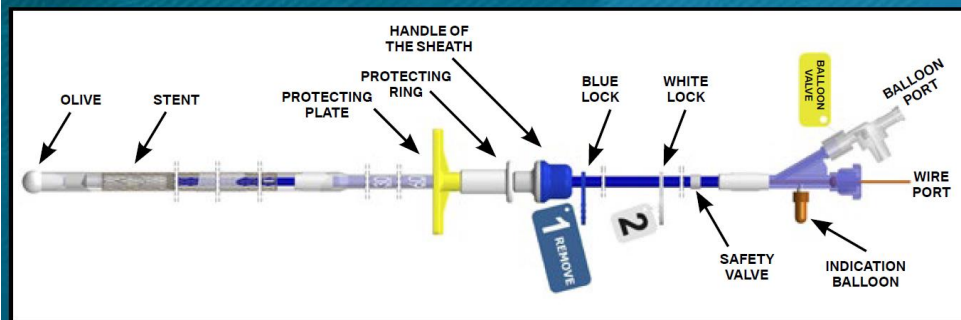
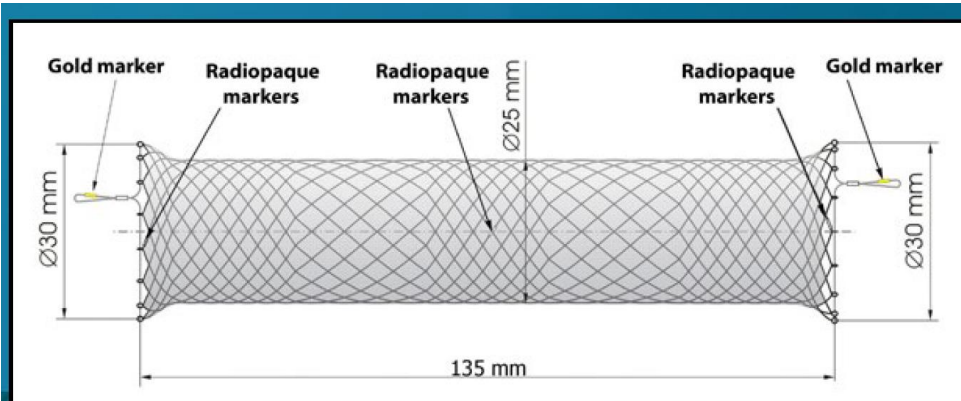
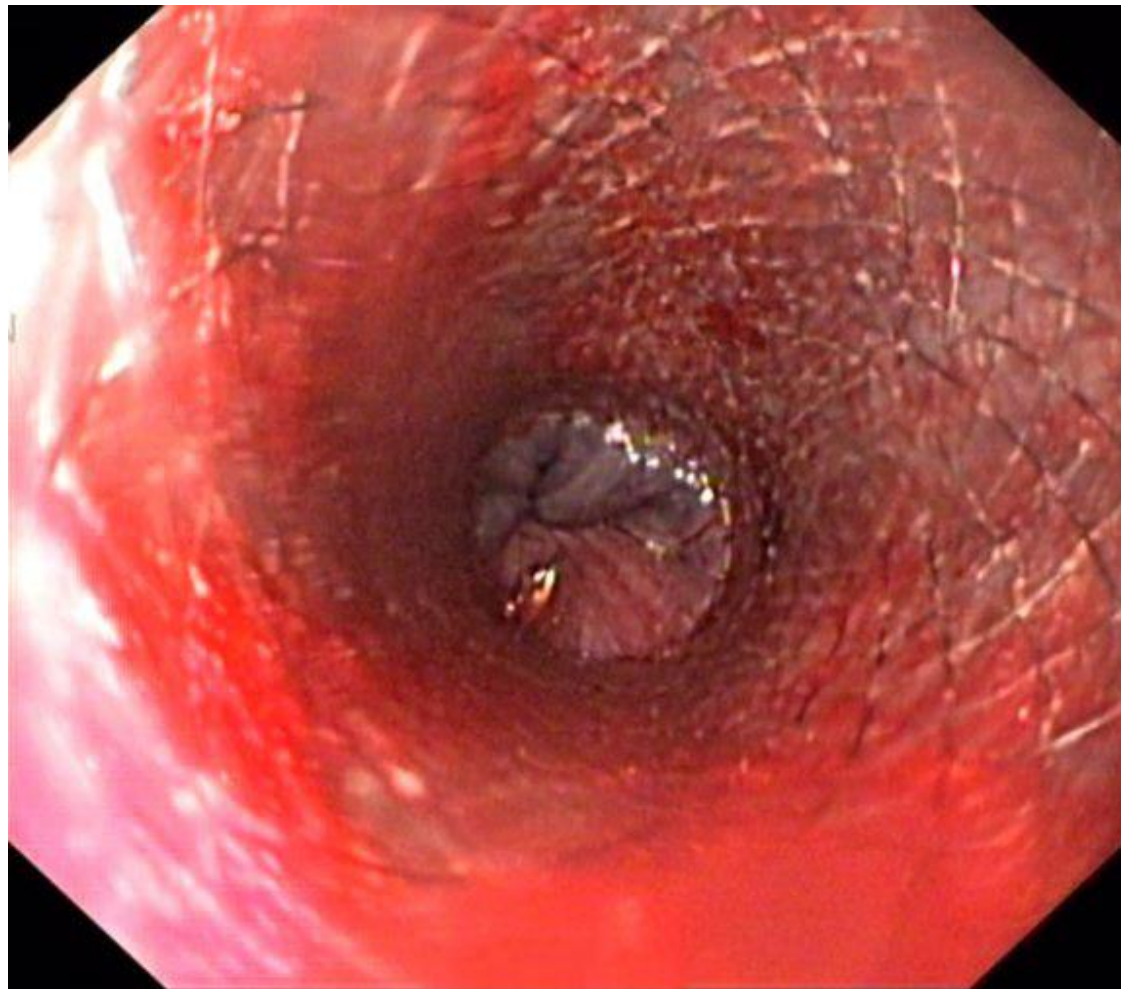


FIG. 3. Actuarial probability of: (A) being free of treatment failure (combination of absence of digestive bleeding + absence of SAEs + survival, during the first 15 days after inclusion in the study); (B) 6-week survival.

Angels Escorsell et al HEPATOLOGY, 2016





Limitations and complications

- Gastric varices cannot be treated
- No lasting effect : Max 1 week
- Stent migration
- Oesophageal ulcer
- Oesophageal tear

Thank you for your attention

THE NOTORIOUS G.I.B.

