Endoscopic Management of Variceal Bleed

GESA GUT Centre, Alice Springs - 2024

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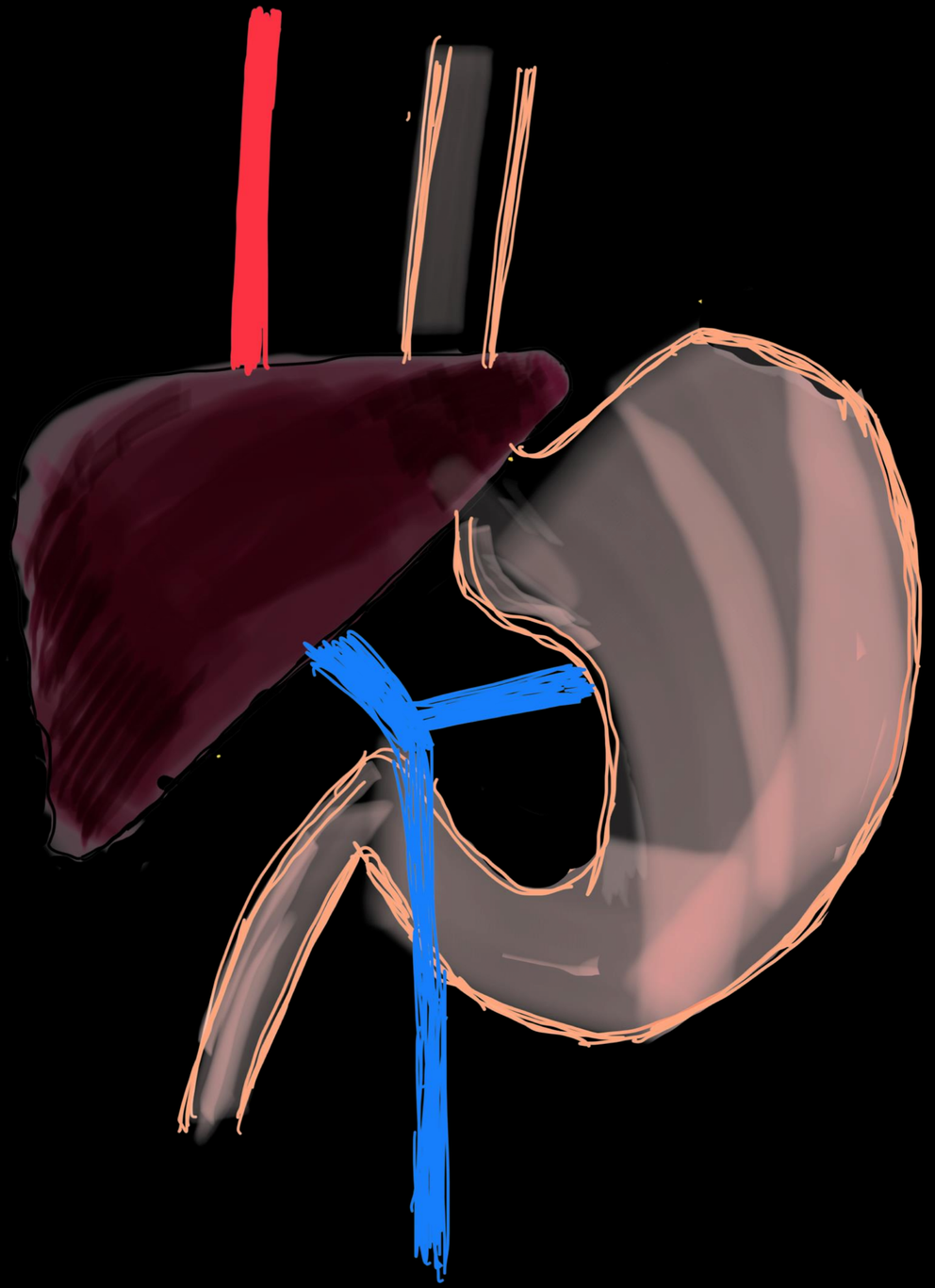
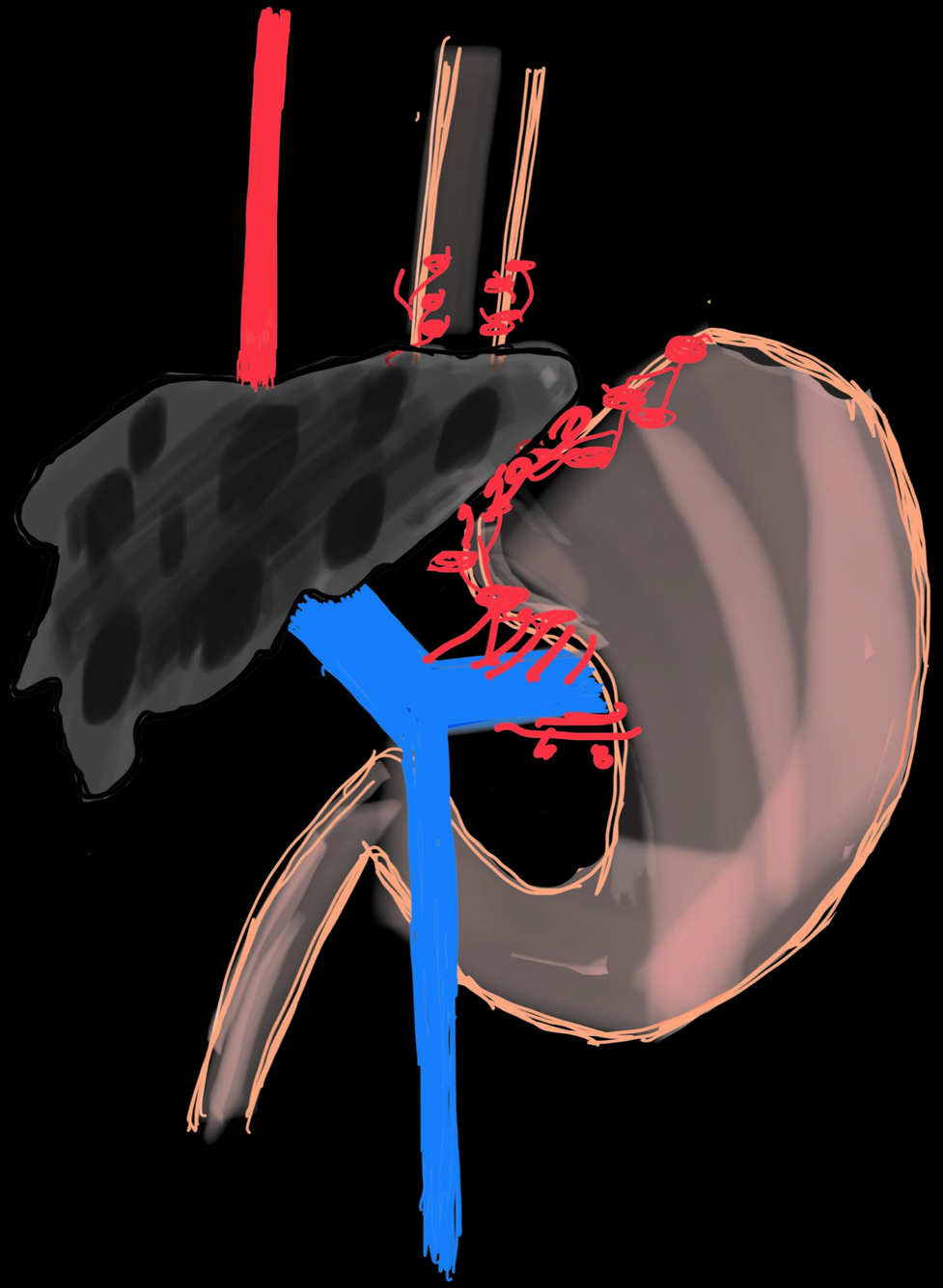
Acknowledgement of Country

I would like to acknowledge the Traditional Custodians of the land (Arrernte people)on which we meet today, and pay my respects to their Elders past, present and emerging.





Cirrhosis and varices

- 70-90% of patients with cirrhosis develop oesophageal varices
- Mortality after an index episode of variceal bleeding used to be 50%
- Inspite of increasing use of endoscopy and vasoactive drugs, the mortality rate still is 20% at 6 weeks

Carbonell N, Pauwels A, Serfaty L, et al. Improved survival after variceal bleeding in patients with cirrhosis over the past two decades.Hepatology 2004;40:652

Variceal Bleeding - Medications

- Somatostatin Analogues
- Antibiotics
- Proton Pump Inhibitors
- Prokinetics - Erythromycin

Coagulation abnormalities

- Variceal bleeding is due to portal HYPERTENSION and the aim should be lowering the portal pressure
- PT/INR/APTT do not accurately reflect the hemostatic status in advanced cirrhosis
- No correlation between platelet and fibrinogen level and failure to control bleed or rebleeding
- No role for tranexemic acid or recombninant factor VIIa

Endoscopic Management of Variceal Bleeding

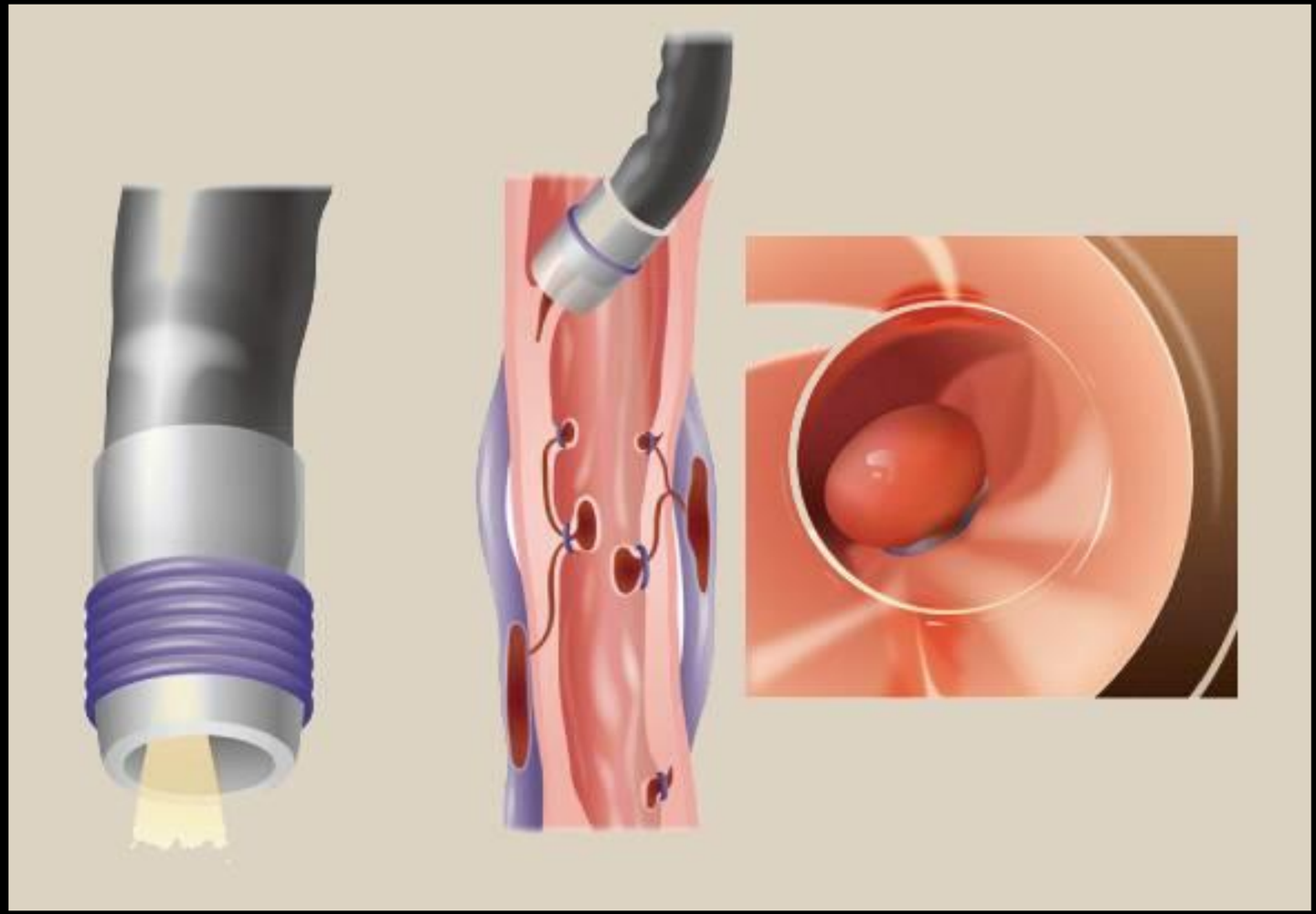
Esophageal Varices

- Band Ligation
- Sclerotherapy

Gastric Varices

- Glue Injection
- EUS guided coiling

Endoscopic variceal Ligation

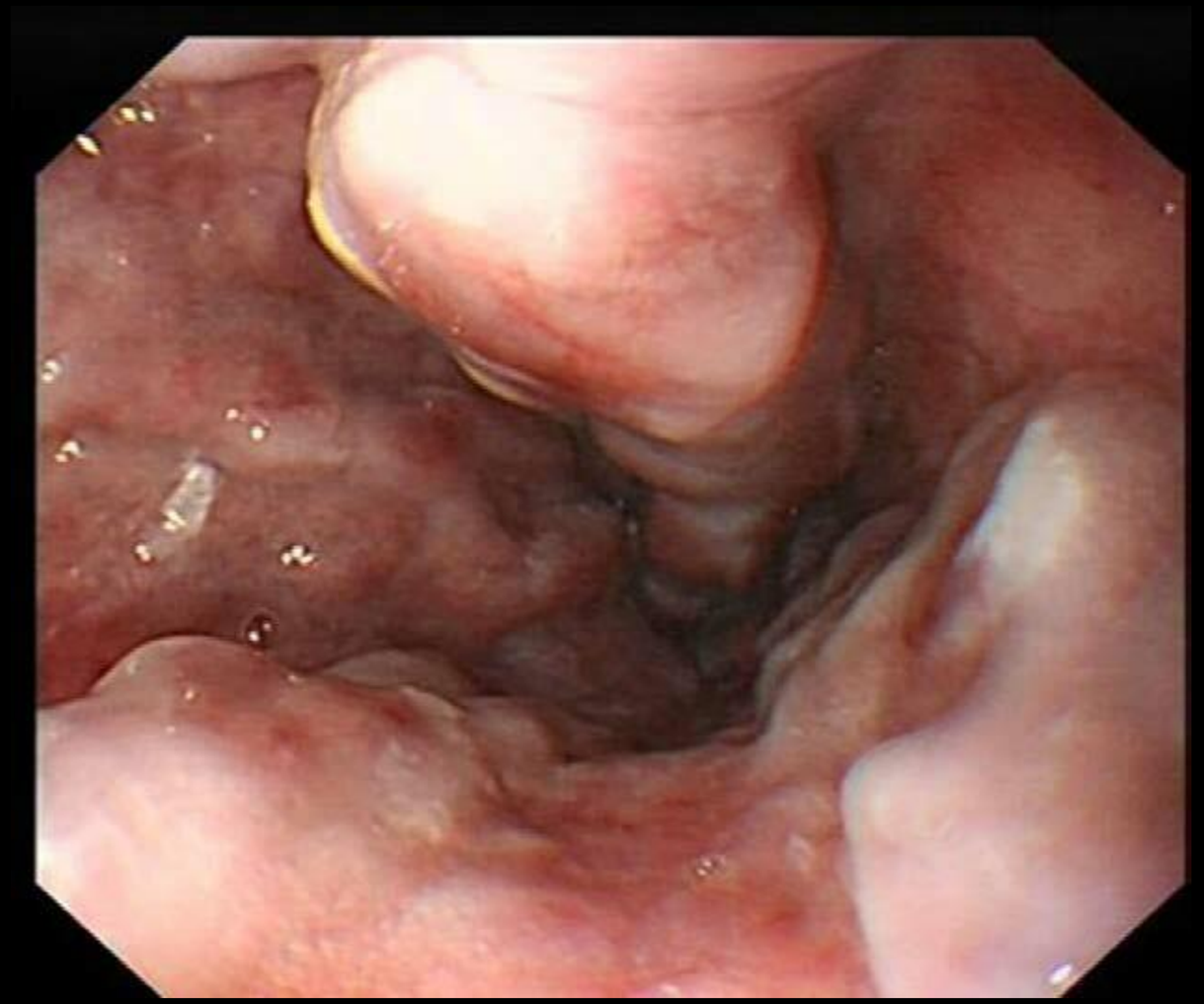


Endoscopic variceal Ligation

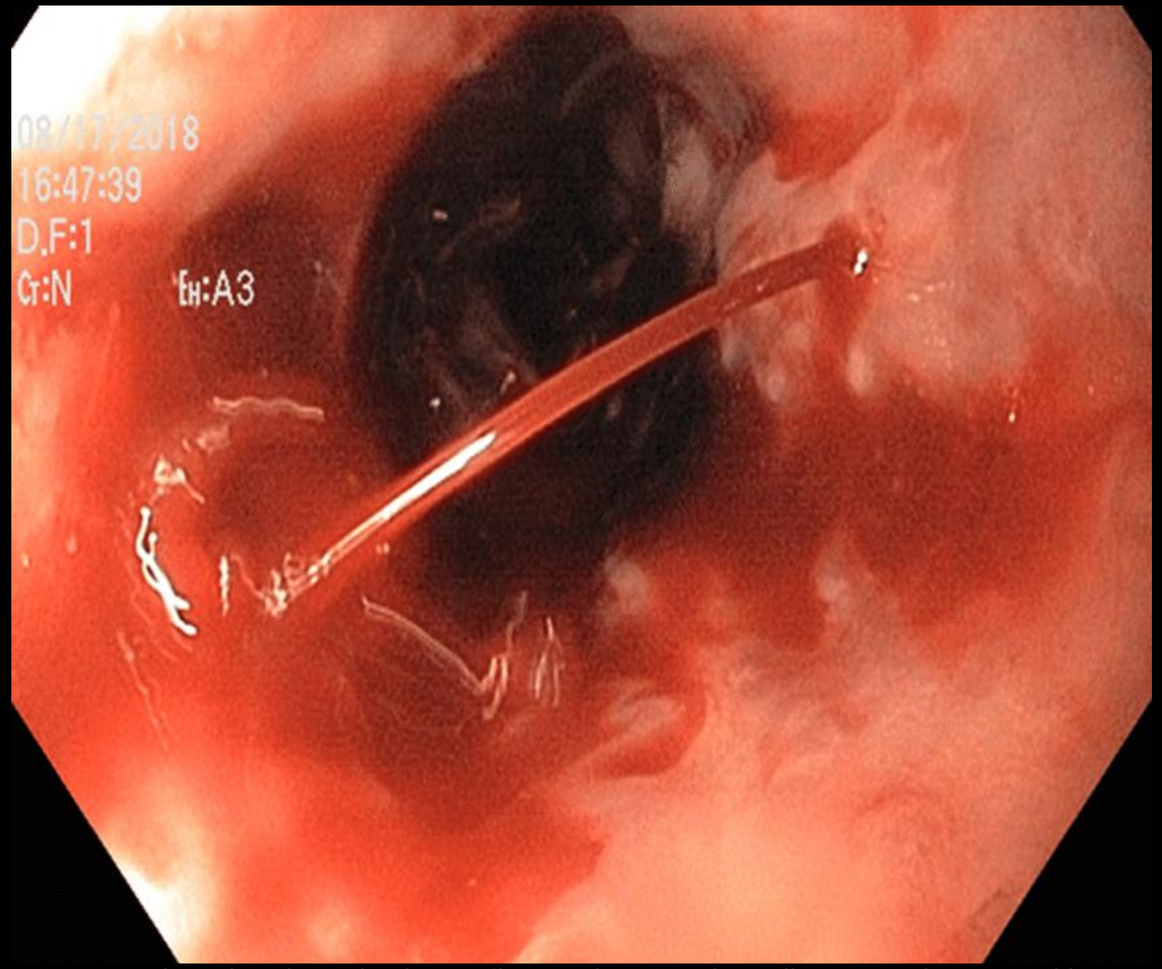
- EVL works by capturing the varix within a small band, resulting in occlusion from thrombosis.
- The tissue then becomes necrotic and sloughs off within few days leaving a superficial mucosal ulceration that heals completely.
- Complications - Band induced ulcer bleeding, worsening of PHG and rarely Esophageal stricture.

Variceal Eradication

- Repeat endoscopies +/- Band ligations necessary to eradicate varices. 2-4 sessions
- The interval for repeat endoscope is not clear but within 1-8 weeks is accepted.
- Once eradication is achieved, repeat surveilance endoscopy performed periodically (3-6months) and any recurrent varices are banded.



- Image credits - Zhang, Wenhui & Wang, Yanling & Chu, Jindong & Liu, Yingdi & LingHu, Enqiang. (2022). Investigation report on endoscopic management of esophagogastric variceal bleeding by Chinese endoscopists. Medicine. 101. e31263. 10.1097/MD.0000000000031263.



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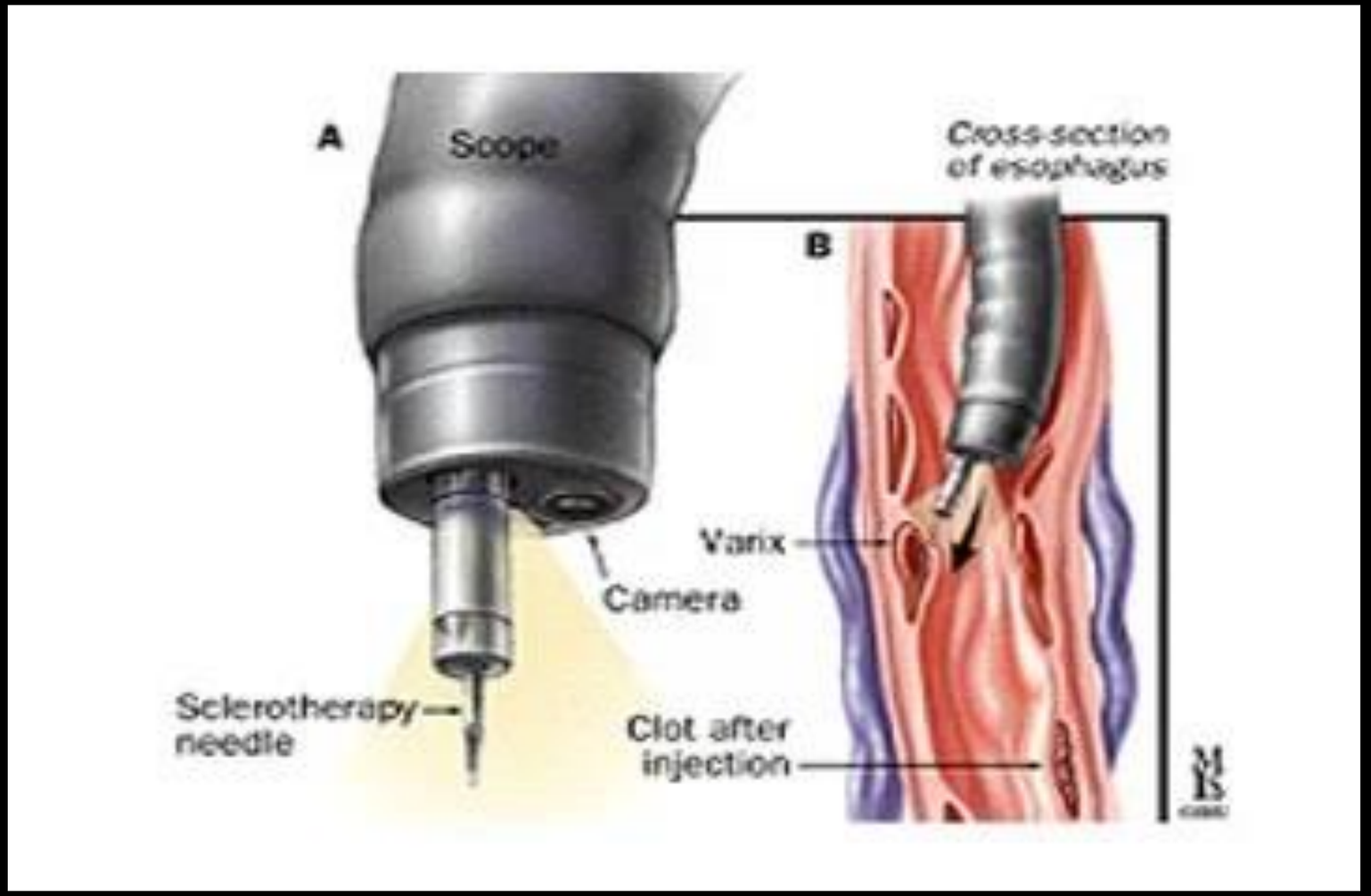
Endoscopic Sclerotherapy



Endoscopic sclerotherapy

- Sclerosants - sodium tetradecyl sulfate, sodium morrhuate, ethanolamine oleate, polidocanol.
- Injection can be directly into the varices or adjacent to the varices (paravariceal injection)
- Adverse events - fever, retrosternal discomfort, dysphagia, Esophageal ulceration, perforation, broncho-esophageal fistule, mediastinitis and pleural effusion.
- EST maybe performed in patients in whom EVL is technically difficult

Band Ligation Vs Sclerotherapy

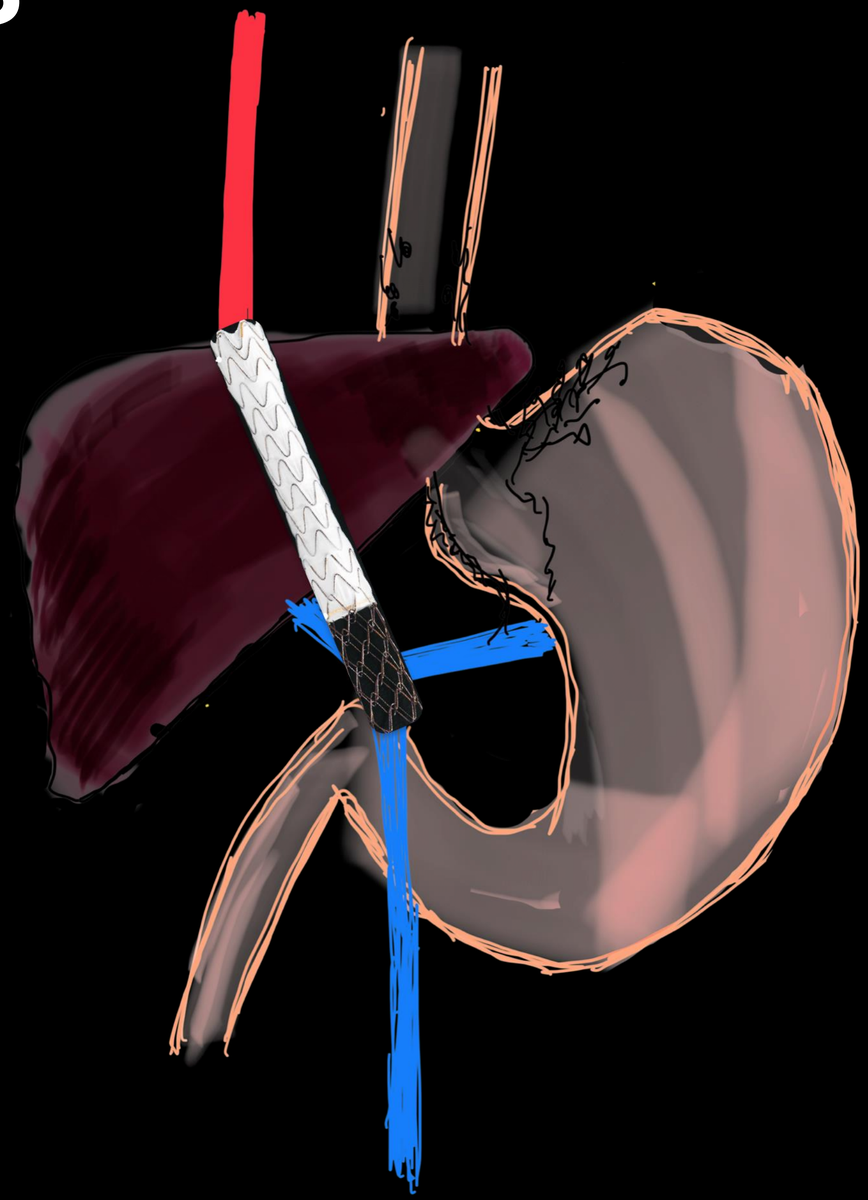
- 6 RCTs
- EVL is superior to EST for eradicating varices more rapidly, with less recurrent bleeding and fewer adverse events
- Two of the trials demonstrated a survival advantage in patients treated with EVL

Primary prophylaxis

- Options - Non selective beta blockers vs Band Ligation
- RCTs - EVL better in preventing the first variceal bleed but no effect on mortality
- Consensus is that 2 treatments have similar efficacy
- Primary EVL is preferred in those with contraindications for beta blockers, large varices with high risk stigmata, Child-Pugh class C cirrhosis

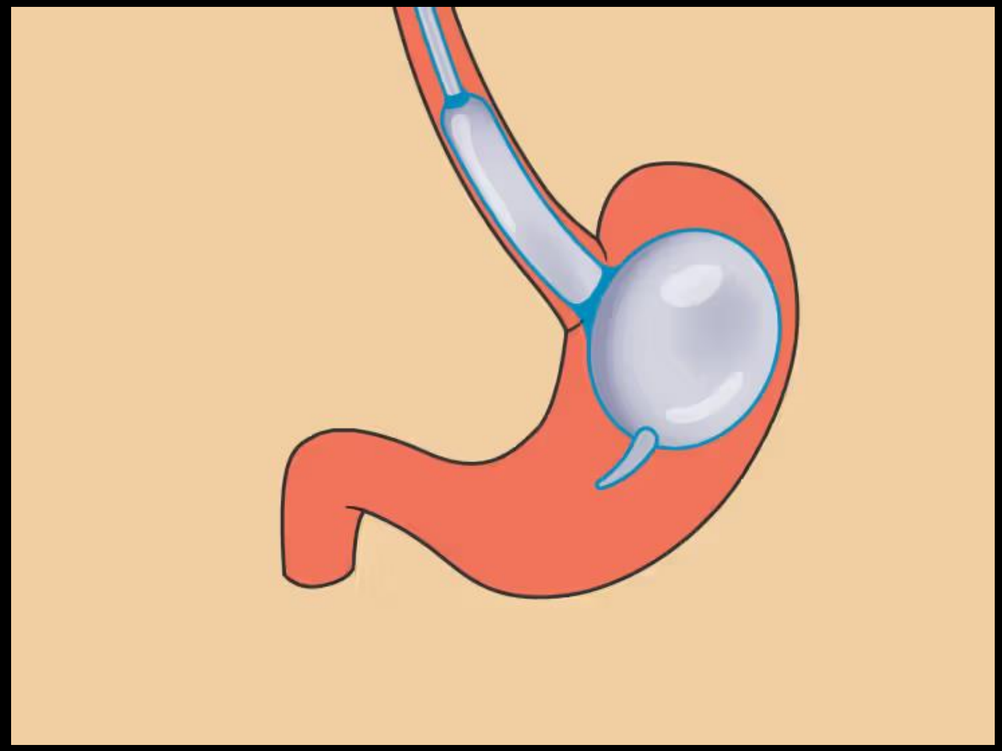
Treatment Failure - TIPS

- Definitive therapy - PTFE-Covered TIPS



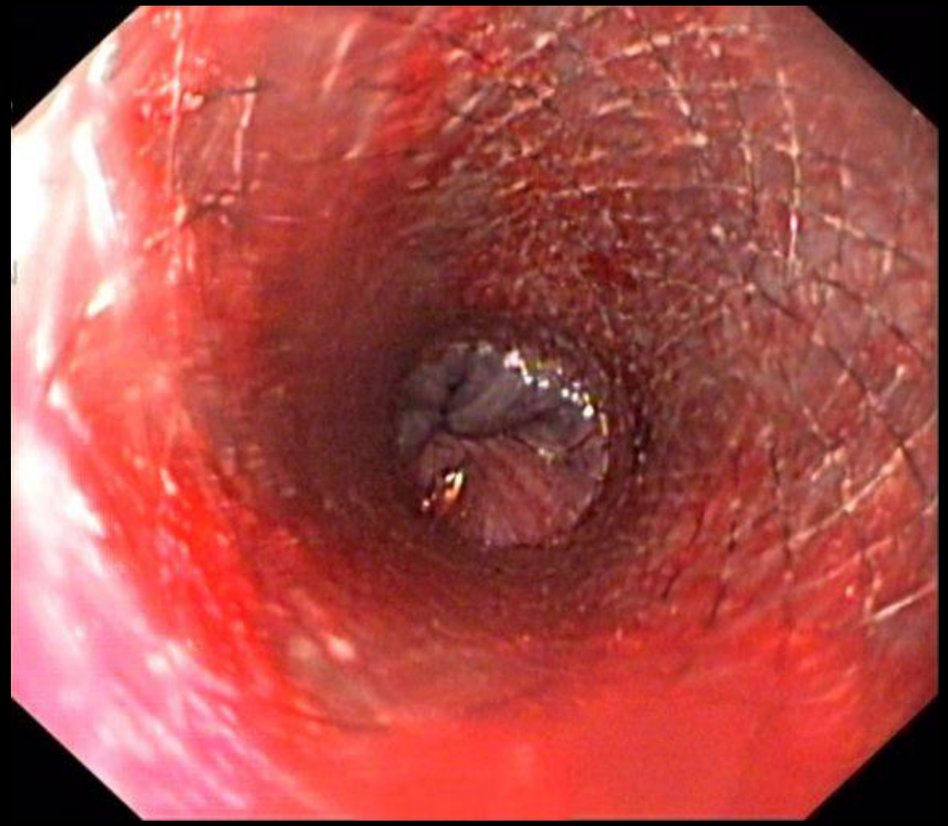
Bridging Therapy - Balloon Tamponade

Sengstaken Blakemore tube

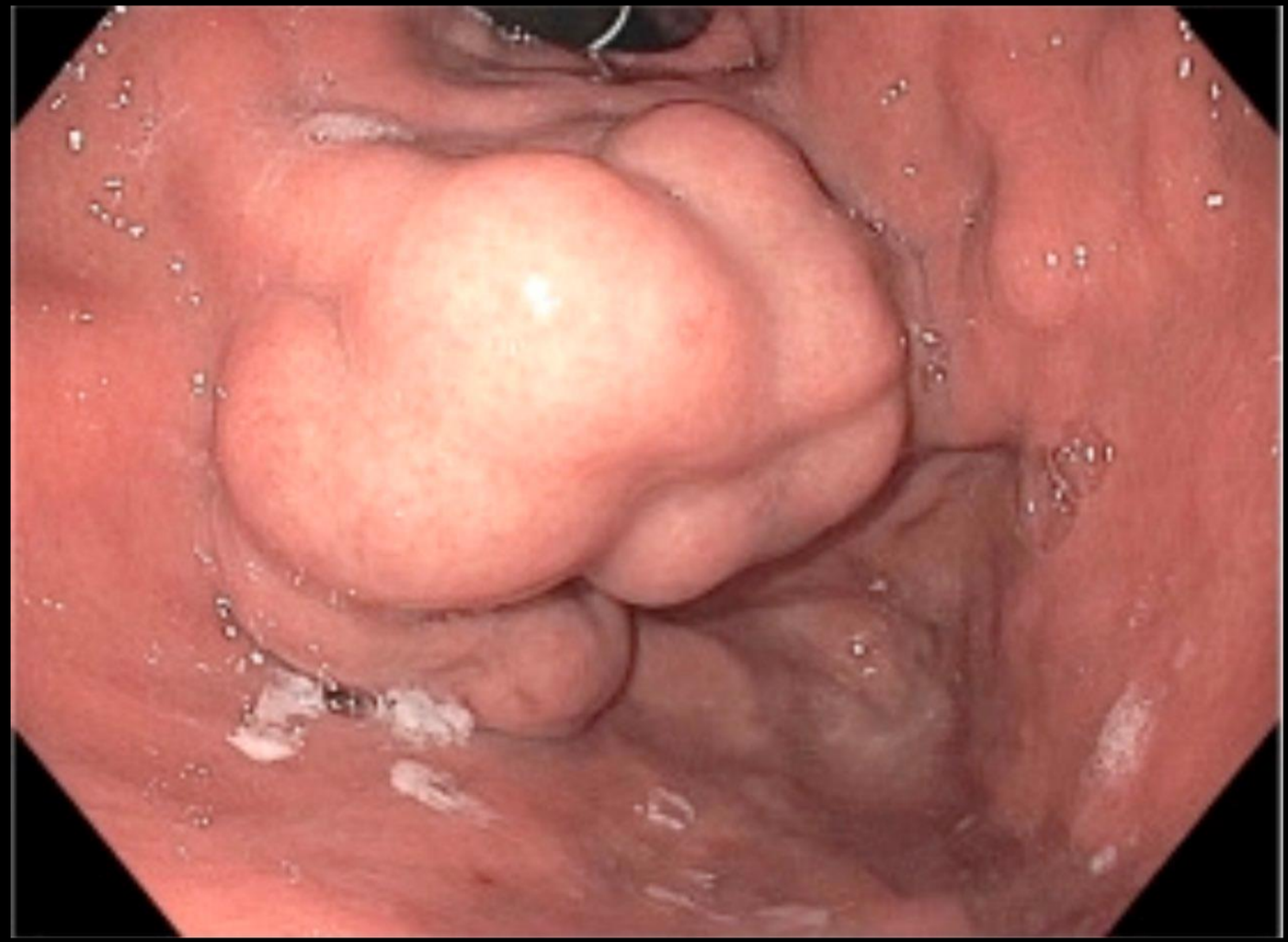


Bridging therapy - Covered SEMS

Ella Danis Stent



Gastric Varices



Glue injection -Cyanoacrylate

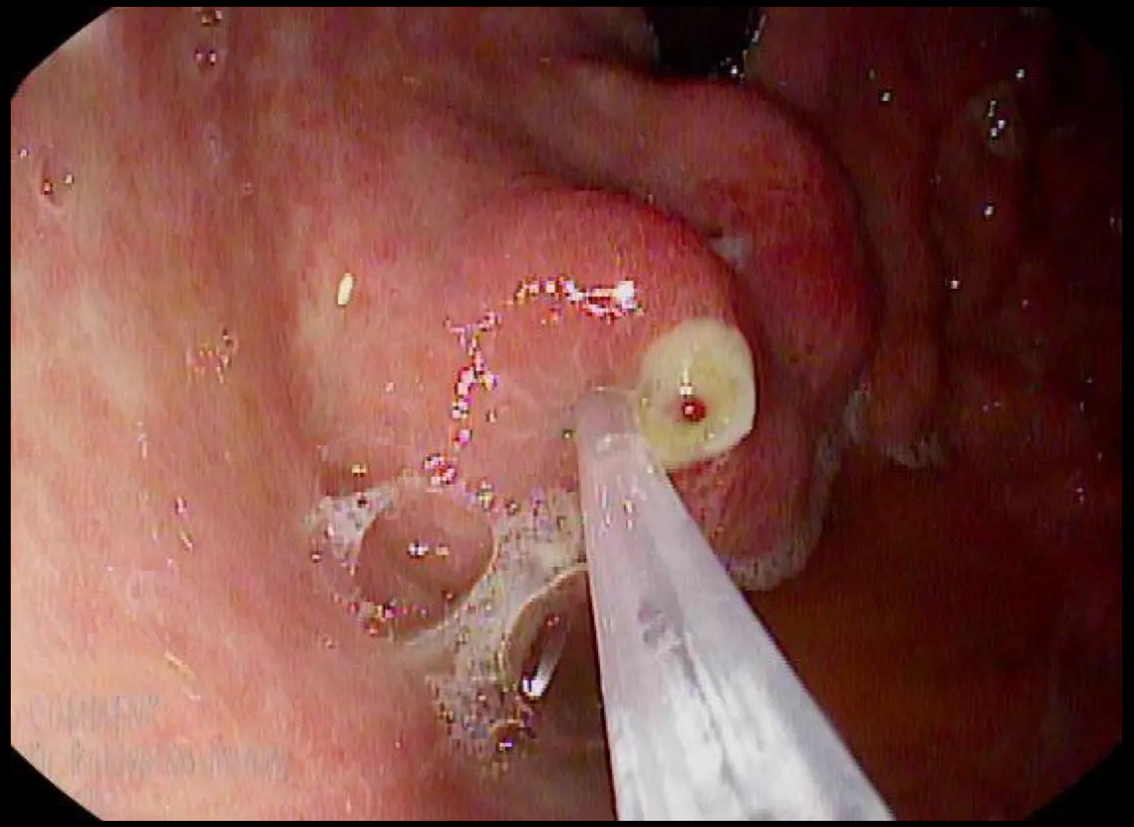


Image Credits - Cost-effectiveness of endoscopic ultrasound-guided coils plus cyanoacrylate injection compared to endoscopic cyanoacrylate injection in the management of gastric varices Carlos Robles-Medranda

EUS Guided Coiling/Glue Injection

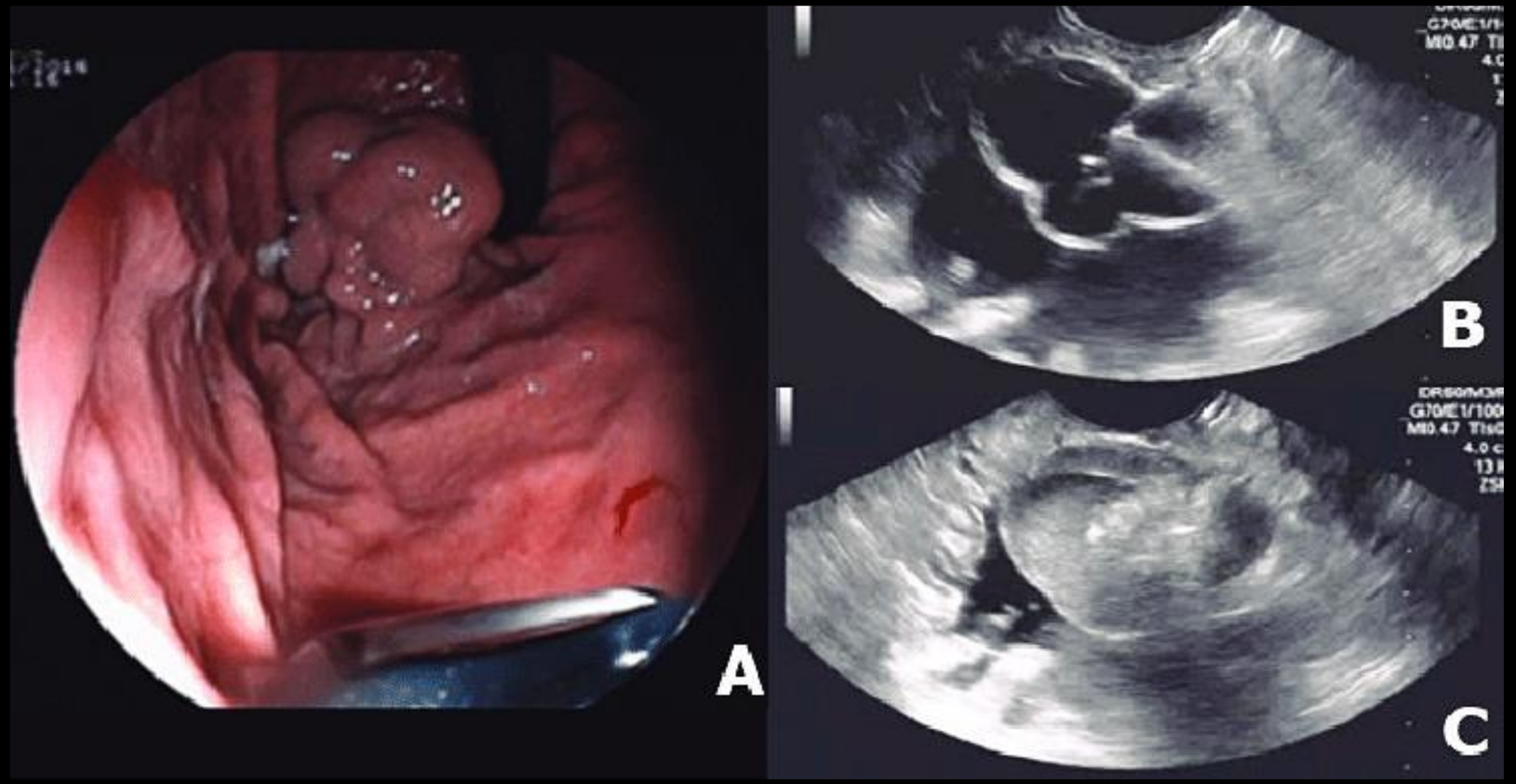


Image Credits - Safety and efficacy of EUS-guided coil plus cyanoacrylate versus conventional cyanoacrylate technique in the treatment of gastric varices: A randomized controlled trial - April 2019 Arquivos de Gastroenterologia 56(1)

Case 1

- Elderly(Age in 70’s), Female - Tennant creek ED with 2 days of black tarry stool
- Ethanol related cirrhosis
- Large volume Hemetemesis at the ED, BP dropped to 70 systolic
- Hb 87, dropped to 70 later that day
- Discussed with Gastro/ICU for transfer to Alice Springs and Endoscopy ASAP
- 5 units of O Negative PRBCs transfused, Ceftriaxone given and octreotide commenced

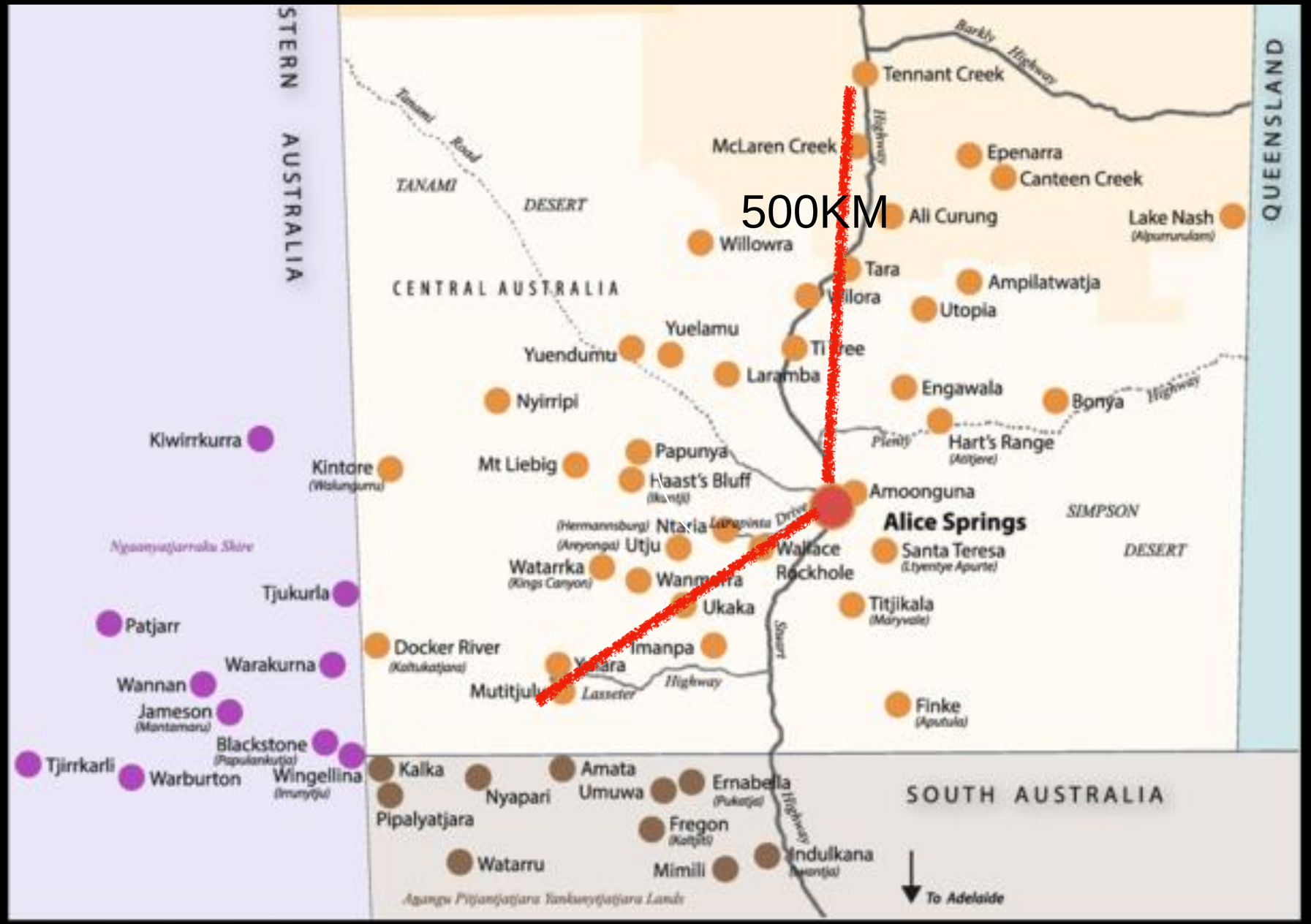
- ASH - Hb 55, BP - 100 systolic on 30 Noradrenaline.
- 3 more units of blood transfused
- Intubated in ED, Emergency Gastroscopy - Fresh blood in Esophagus, Fundus wth clots. Active bleeding seen from esophageal varices.

Case 2

- Elderly (Age in 50’s) Female, Mutitjulu
- Hepatitis B related Chronic Liver disease on Entecavir, T2DM, Hypothyroidism,Previous SDH
- Planned for elective variceal assessment but multiple cancellations
- Presented to clinic with 1 day history of Haemetemesis and Malena, discussed with gastroenterology and Initiated emergency transfer to Alice springs for an Endoscopy

- Hb - 60, Platelet count - 50K
- CT - Cirrhosis, Portal hyperternsion, Ascites and Multiple esophageal-gastric varices
- Initiated antibiotics, octreotide and Emegency gastroscopy showed small esophageal varices with RCS
- Multiple red cell antibodies, Difficult to obtain appropriate blood products
- Ongoing Hb drop, Transferred to Adelaide

1. Catchment area of Alice springs Hospital



2.High mortality with variceal bleeding

- Variceal bleeding is the leading cause of death in cirrhosis patients
- 20% mortality rate within 6 weeks

3.High Prevalence of Chronic Hepatitis B

State/territory	Total population	People living with CHB	CHB prevalence (%)
ACT	453,324	2,840	0.63%
NSW	8,095,430	72,058	0.89%
NT	249,345	4,325	1.73%
Qld	5,265,043	31,665	0.60%
SA	1,796,955	10,181	0.56%
Tas.	569,827	1,566	0.27%
Vic.	6,559,941	56,837	0.87%
WA	2,762,234	20,912	0.76%
AUSTRALIA	**25,766,605**	**200,385**	**0.78%**

ABS, Australian Bureau of Statistics. CHB, chronic hepatitis B.

Data source: CHB prevalence estimates based on mathematical modelling incorporating population-specific prevalence and ABS population data.

Thank You