AGA Clinical Practice Update on Management of Bleeding Gastric Varices: Expert Review

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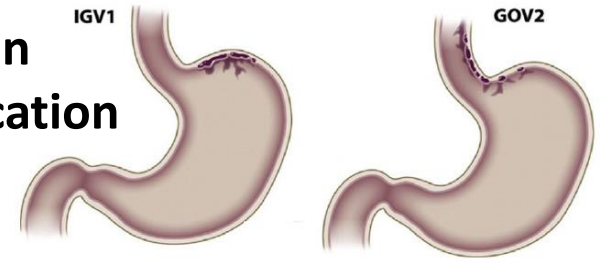
Gastric Varices

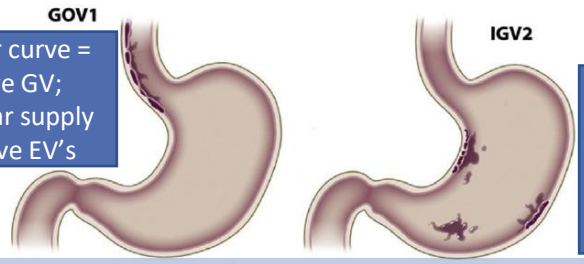
- Complex vascular shunts between the porto-splenic venous systemic veins of the abdomen and thorax.
- 17-25% prevalence in patients w/ PHTN
- GV's less prevalent than EV's, but bleeding is more severe and increased mortality w/ hemorrhage

Sarin Classification

Posterior and/or greater curvature GV's = Cardiofunal GV; likely have distinct vascular supply from EV's.



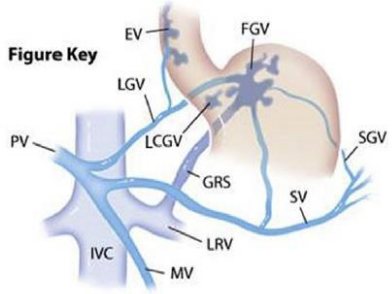
GV's on lesser curve = Lesser Curve GV; similar vascular supply to lesser curve EV's

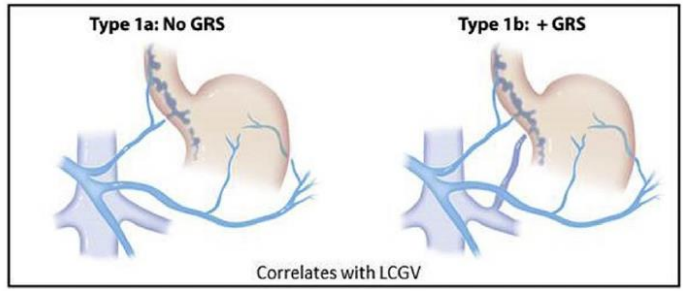


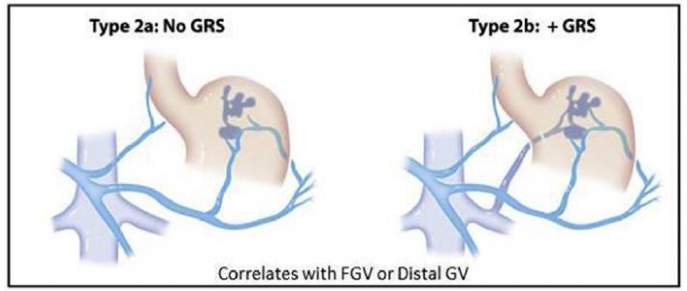
GV in gastric body and antrum = Distal GV. Rare and associated w/ SV thrombosis

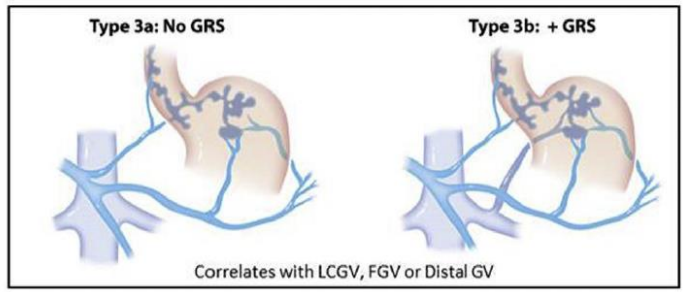
- Divides gastric varices into 4 types based upon location in the stomach and association with EV's
- Most commonly used classification scheme
- Merged classification scheme for EV's and GV's
- Unable to prognosticate the risk for bleeding based on high-risk endoscopic stigmata
- Corresponding vascular supply may overlap for lesions within the the same type, no therapeutic association

Saad-Caldwell Classification









- Describes variations in afferent flow into the gastric varix and efferent flow through the portosystemic shunt
- Type 1 – dominant portal venous feeder is LGV
- Type 2 – dominant portal venous feeder is PGV's or SGV's
- Type 3 – All venous feeders are involved w/ variable dominance
- Further defined by the absence (a) or presence of a GRS (b)
- Subtype implies therapeutic management

LEGEND

BRTO: Balloon-occluded Retrograde Transvenous Obliteration
FGV: Fundal Gastric Varices
GRS: Gastro Renal Shunt
ECI: Endoscopic Cyanoacrylate Injection
LGV: Left Gastric Vein
LCGV: Lesser Curvature Gastric Varices
LRV: Left Renal Vein
PGV: Posterior Gastric Vein
PSS: Portosystemic Shunts
SGV: Short Gastric Vein
SV: Splenic Vein
TIPS: Transjugular intrahepatic portosystemic shunt

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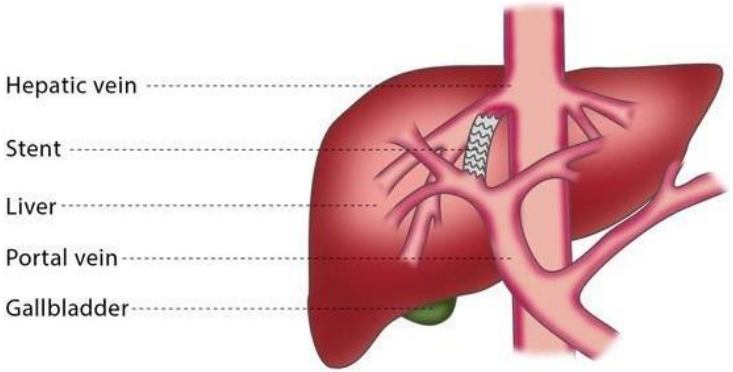
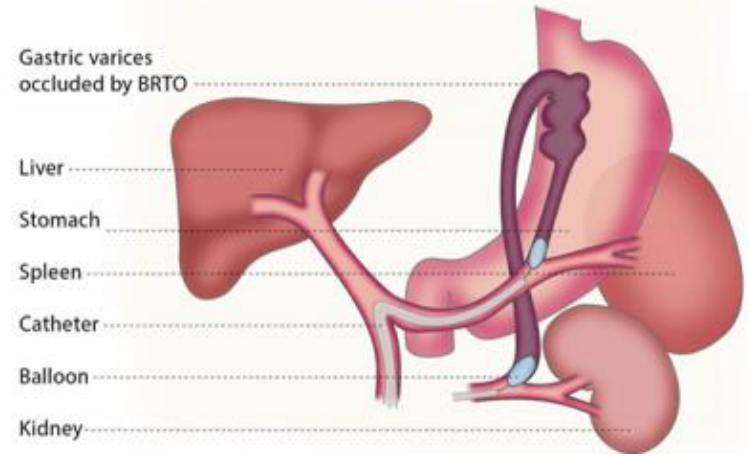
Evaluation of Gastric Varices

- Early endoscopy should fully characterize varix
- Endoscopic Classification schemes for the appearance of GV should not guide primary ppx of GV bleeding [BPA1]
- Following endoscopic hemostasis of GV cross-sectional imaging w/ PV contrast should be obtained to determine vascular anatomy (determine presence of PSS and GRS)

Transjugular intrahepatic portosystemic shunt (TIPS)



Balloon-occluded retrograde transvenous obliteration (BRTO)



Endoscopic Management of Gastric Varices

Temporizing Methods

- Sclerotherapy with Etoh based agents (ethanolamine) achieve marginal hemostasis, high early rebleeding and post-tx ulceration
- Band ligation is inferior to ECI, but can be used as a temporizing modality
- Procoagulants (e.g., Factor VIII) can increase risk for thrombotic complications
- ECI not recommended on index endoscopy due to logistics and unknown vascular anatomy
- **Gastric compression balloon** (i.e., Blakemore, Linton-Nachlas tube) – highly effective for cardiofundal varix and LCGV w/ competent proceduralist

Definitive Management

- ECI >>> Sclerotherapy: ↓ early and late rebleeding. ECI is the only definitive therapy for Cardiofundal GV (FGV have higher mortality, bleed at lower portal pressures)
  - No FDA approved formulation of cyanoacrylate; fast polymerization ↓ embolization
  - Addition of Lipidol not needed for radiographic confirmation, may ↑ embolization
  - Risks: glue embolization → PE/Stroke (0.7% risk), PVT, and infection
- Band ligation is an option for LCGV
- EUS guided hemostatic coils and/or glue placement

<u>Re-bleed from GV's is often late (months); follow up EGD within 2-4 weeks to confirm tx</u>

Endovascular Management for Gastric Varices

TIPS decreases portal pressures but is more effective for EV's than GV's. Should be used for LCGV not responsive to band ligation.

- Risk of HE and hepatic ischemia with TIPS
- Endoscopic eval 4 wks post TIPS to ensure GV obliteration; if present may require ECI vs BRTO

BRTO is safe and effective, leading to >90% cessation of bleeding for GV's, rebleed in <7% of cases
Compared to TIPS for Cardiofundal GVs, BRTO has less HE; equivalent in initial hemostasis

- Risks: post-BRTO bleeding (due to worsened EV's), worsening ascites, hepatic hydrothorax
- Benefits: Decreased HE, may improve liver function

EUS 48hrs post BRTO to eval for exacerbation of EV, obliteration of GV and obtain new baseline

https://www.cirse.org/patients/ir-procedures/transjugular-intrahepatic-portosystemic-shunt-tips/
https://virclinic.com/varicose-veins/portal-hypertension-cirrhosis/

Algorithmic Approach to Portal Hypertension Bleeding from Gastric Varices

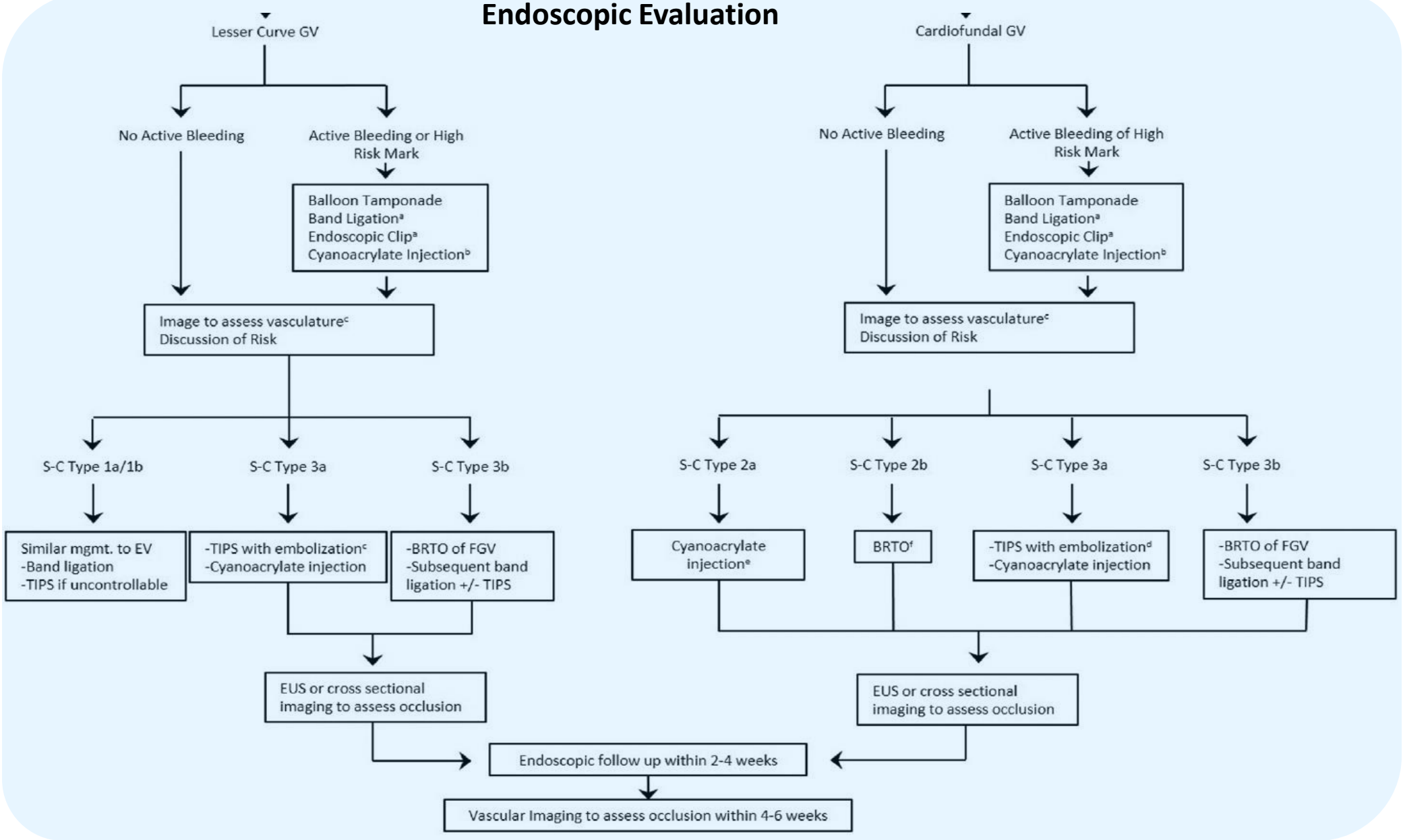
Pre-Endoscopic Management

Patient with known portal HTN presents to the hospital with UGIB

- → Modest transfusion strategy
- → Consider intubation
- → Vasoactive medication (Octreotide, Terlipressin)
- → Avoid volume expansion
- → 250mg IV erythromycin 30-120mins prior to endoscopy
- → Ceftriaxone 1g/24hr (max 7days)
- → Perform endoscopy for further evaluation

Tip: Patients with non-cirrhotic pHTN 2/2 splenic vein thrombosis may be best managed w/ splenectomy!

Endoscopic Evaluation



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