Gastric variceal bleed in pregnant women

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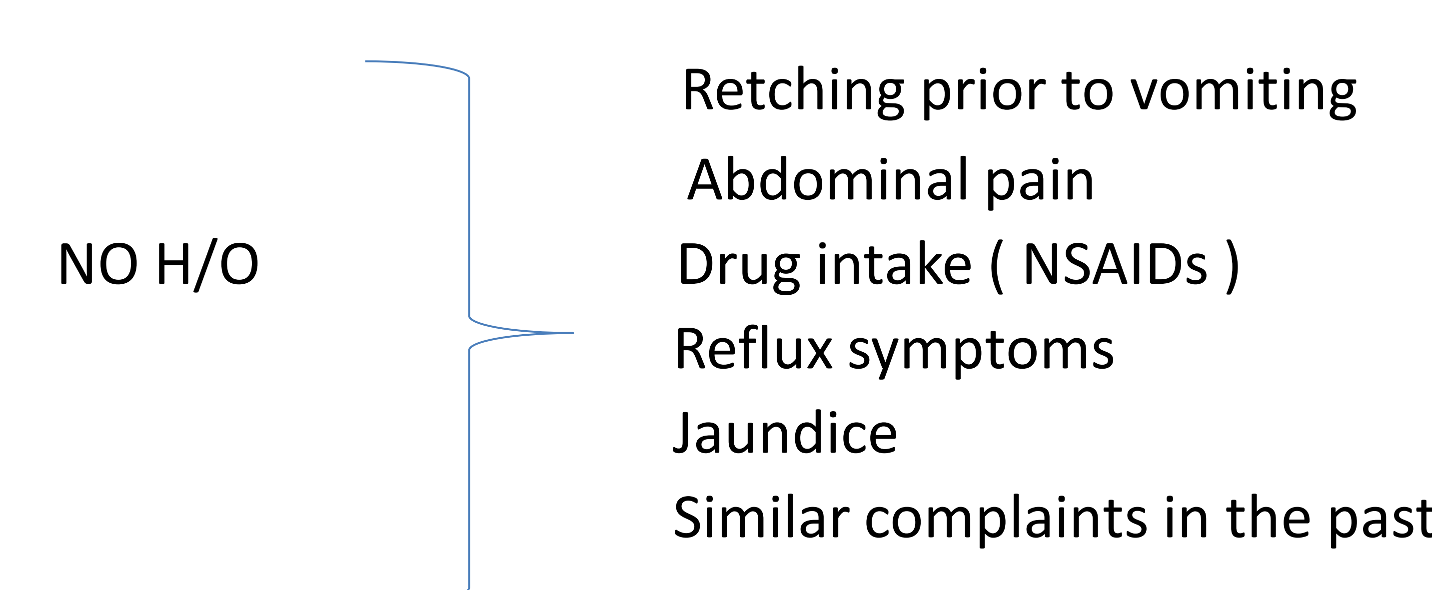
Case

- 25 / F
- Primigravida at 18 weeks of gestation with no prior comorbidities presented on 18/11/2022

Hematemesis



- No significant medical or surgical history

General examination

Conscious , oriented

PR – 98/min

BP - 100/70mm Hg

Spo2 - 98 %

RR - 18/min

Pallor +

No icterus , pedal edema

No peripheral signs of chronic liver cell failure

Per Abdomen

- Spleen palpable – 5cm , firm , non tender
- No hepatomegaly
- No ascites

- Other systemic examination - WNL

Summary

Young primigravida with hematemesis and splenomegaly

- Variceal bleed – Esophageal or gastric variceal bleed secondary to portal hypertension
- Non Variceal bleed – PUD / Esophagitis / Mallory Weiss tear

Management

- IV Fluids – 0.9 % w/v Normal saline @ 100mL/hr
- Inj Ceftriaxone 1gm q12hrly
- Inj Pantoprazole 80mg stat followed by 8mg/hr infusion
- Inj Octreotide 50 ug stat followed by 50ug/hr infusion

CBC	**Hb-10** gm/dl TLC-4500/micL **Platelets-147,000** /micL
RFT	Urea-14 mg/dL Creatinine-0.7 mg/dL
LFT	Total Bilirubin- 1.2 mg/Dl Direct Bilirubin-0.8 mg/dl; Indirect Bilirubin-0.4 mg/dl;SGOT-26 U/dl;SGPT-32 U/l
Serum Electrolytes	Na-137 mEq/L K-4.8 mEq/L Cl-100 mEq/L
Serum Proteins	Total proteins-5.8 gm/dl; Albumin-3.4 gm/dl; Globulins- 2.4 gm/dl
PT – INR	**PT – 16 , INR – 1.44**
HIV/HBsAg/HCV	Non Reactive

- **USG Abdomen** - suggestive of single, live,intrauterine gestation of 18 weeks 4 days maturity.

- **Doppler- Spleno Portal axis**

  - Liver – 11cms in size with no surface nodularity , normal echotexture
  - Spleen – 20.7cms in size
  - IVC-Normal flow with normal velocity.
  - Hepatic veins- Normal flow
  - Portal vein- Portal Cavernoma
  - Splenic vein-10mm;velocity-21.6cm/sec.

Upper GI Scopy

- Esophagus - Two large columns of varices with no Signs of recent hemorrhage (SRH) / Red Color Signs (RCS)

- Stomach - Altered blood present

  Fundus - GOV 2 with SRH , mosaic mucosa

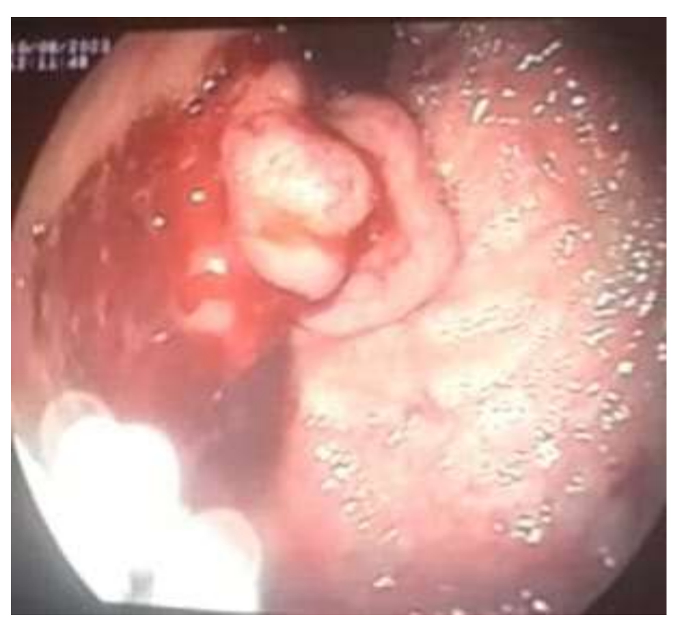
  Body - Mosaic mucosa

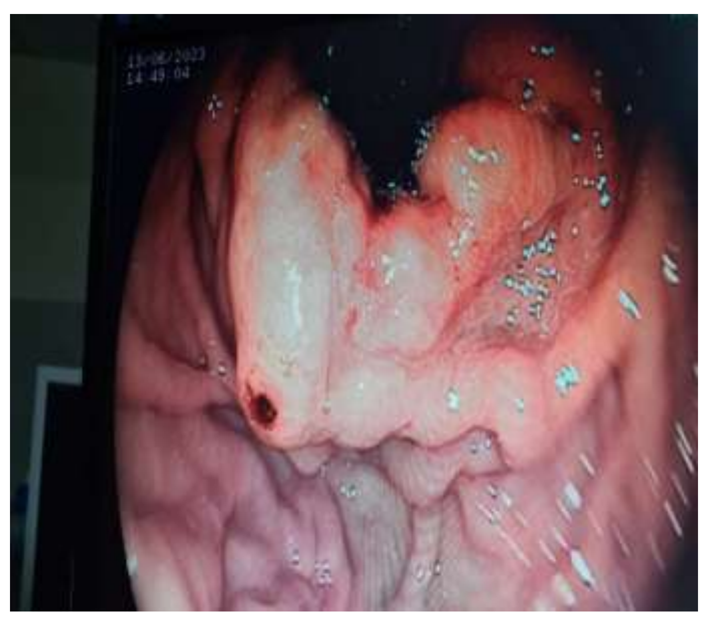
D1 ,D2

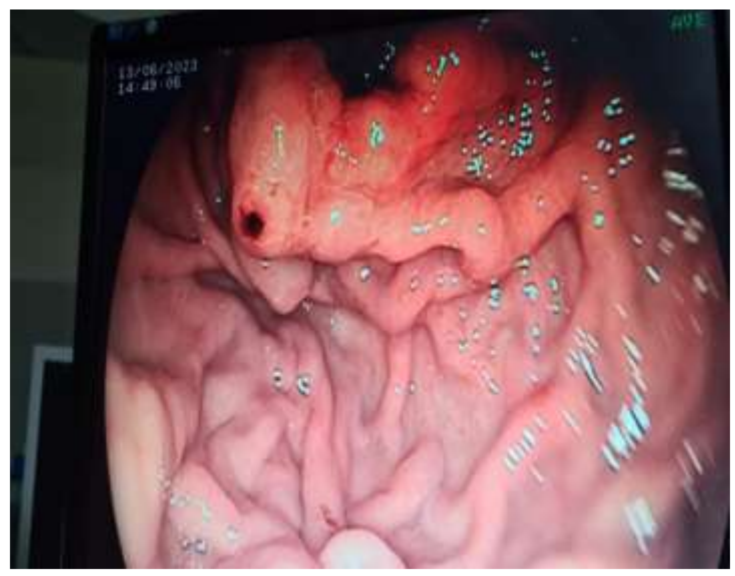
Impression- **Esophageal large varices**

GOV 2 with SRH

Portal Hypertensive Gastropathy.

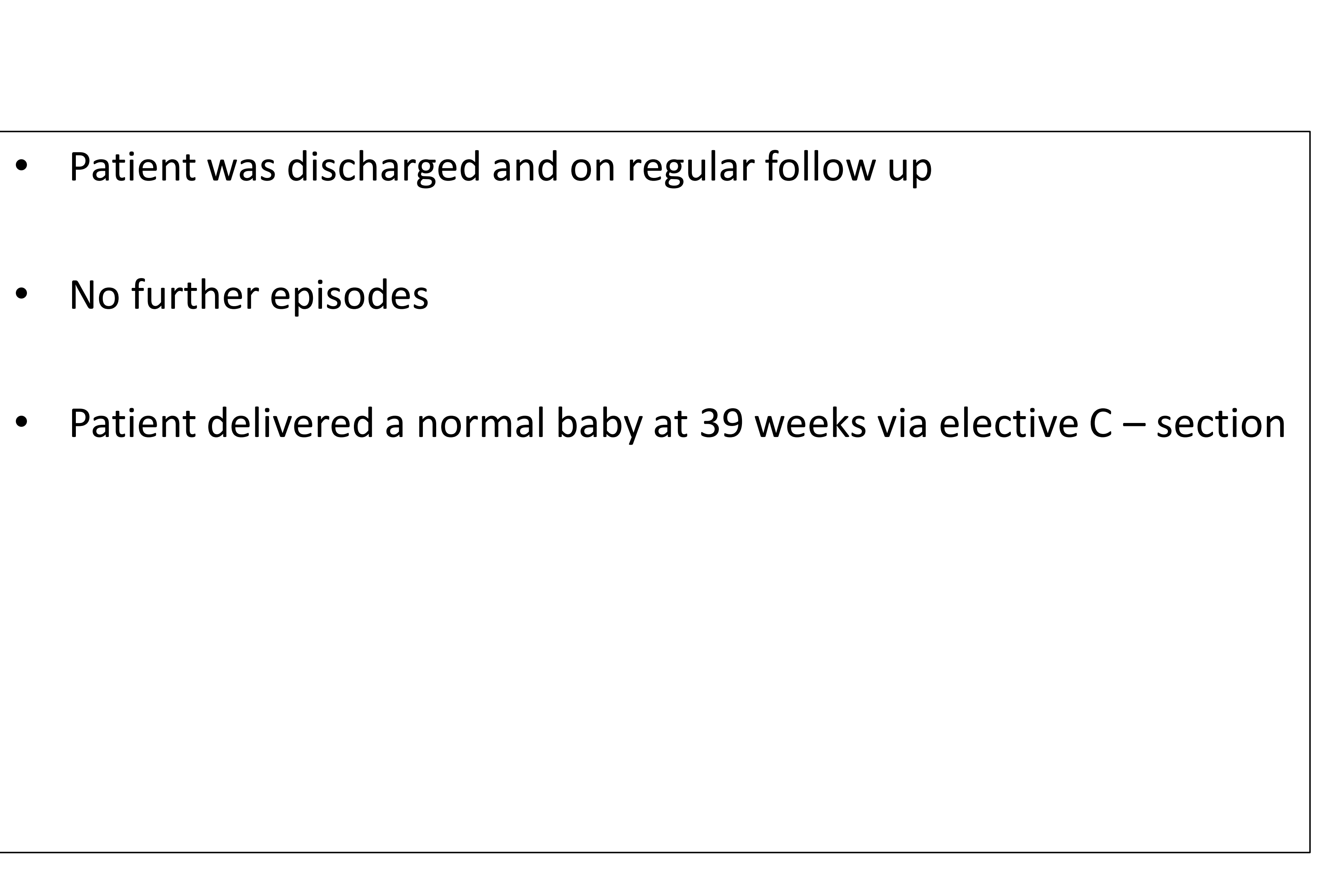






Endoscopic therapy

- 2ml of n butyl cyanoacrylate glue injected into gastric varix
- No peri and post procedural complications
- Recheck endoscopy - [After 48hrs]
  - solidified gastric varix
  - Endoscopic variceal ligation for esophageal varices as done


• Patient was discharged and on regular follow up
• No further episodes
• Patient delivered a normal baby at 39 weeks via elective C – section

Summary

Young primigravida in 2nd trimester of pregnancy presented with hematemesis .

Evaluation revealed – Portal hypertension d/t EHPVO and Gastric variceal bleed

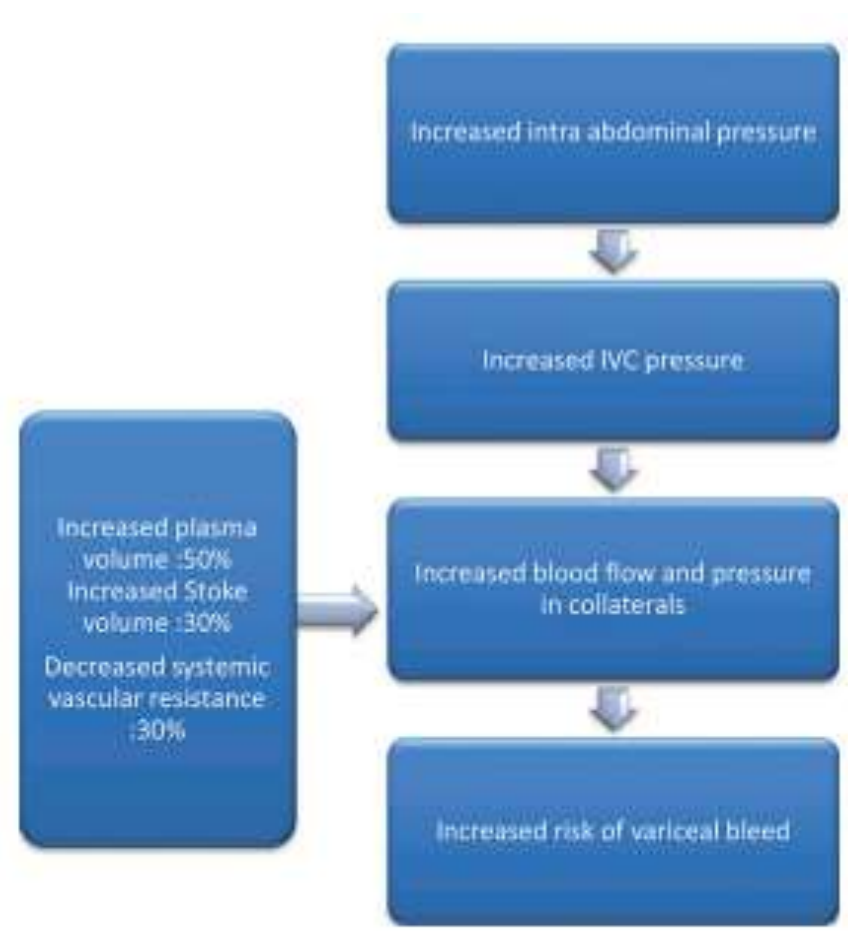
- Treated sucessfully with n butyl cyanoacrylate glue into Gastric Varix and EVL for Esophageal varices with no further obstetric untoward incident

Portal Hypertension in Pregnancy

- Portal Hypertension is defined as pathological increase in portal pressure which is expressed as HVPG > 10mm HG

- Pregnancy in a patient with portal hypertension presents a special challenge to as so-called physiological hemodynamic changes associated with Pregnancy, worsen the portal hypertension thereby putting mother at risk of potentially life-threatening complications

Physiological Changes in pregnancy



Maternal outcomes

- Variceal bleeding – 4.3 to 34%.
  - Variceal bleeding during pregnancy has been associated with abortion, preterm labor, and maternal death.
- Ascites – 0.8 to 10%
- Postpartum hemorrhage , preclampisa
- Splenic artery aneurysm rupture

Fetal outcomes

- Spontaneous abortion
- Premature delivery
- Small size for gestational age
- Stillbirth
- Perinatal mortality.

Table 3: Various studies on EHPVO in pregnancy								
	Pregnancies/ patients	Abortion%	Preterm	Still birth	SGA	Thrombo cytopenia	PPH	Maternal Mortality (*n*)
Subbaiah *et al.*	21/12	23.8	18.7	0	12.5	61.9	0	0
Aggarwal *et al.* (EHPVO patients)	23/12	17.4	10.5	15.8	5.3	NA	NA	NA
D Mandal *et al.*	41/24	4.87	14.6	2.56	10.25	20.8	7.3	1

Management of Portal Hypertension in Pregnancy

- **Preconceptional Counselling** should be done for all women with Portal Hypertension

- Patients should be oriented about the
  - Effect of pregnancy on PHT
  - Risk of complications during pregnancy
  - Impact of drug therapy on the fetus.

- Patients should undergo a surveillance endoscopy prior to preconception for planning appropriate management of PTH.

- Prophylaxis for variceal bleeding can be achieved through either endoscopic variceal ligation (EVL) or β-blockers.

Perinatal management

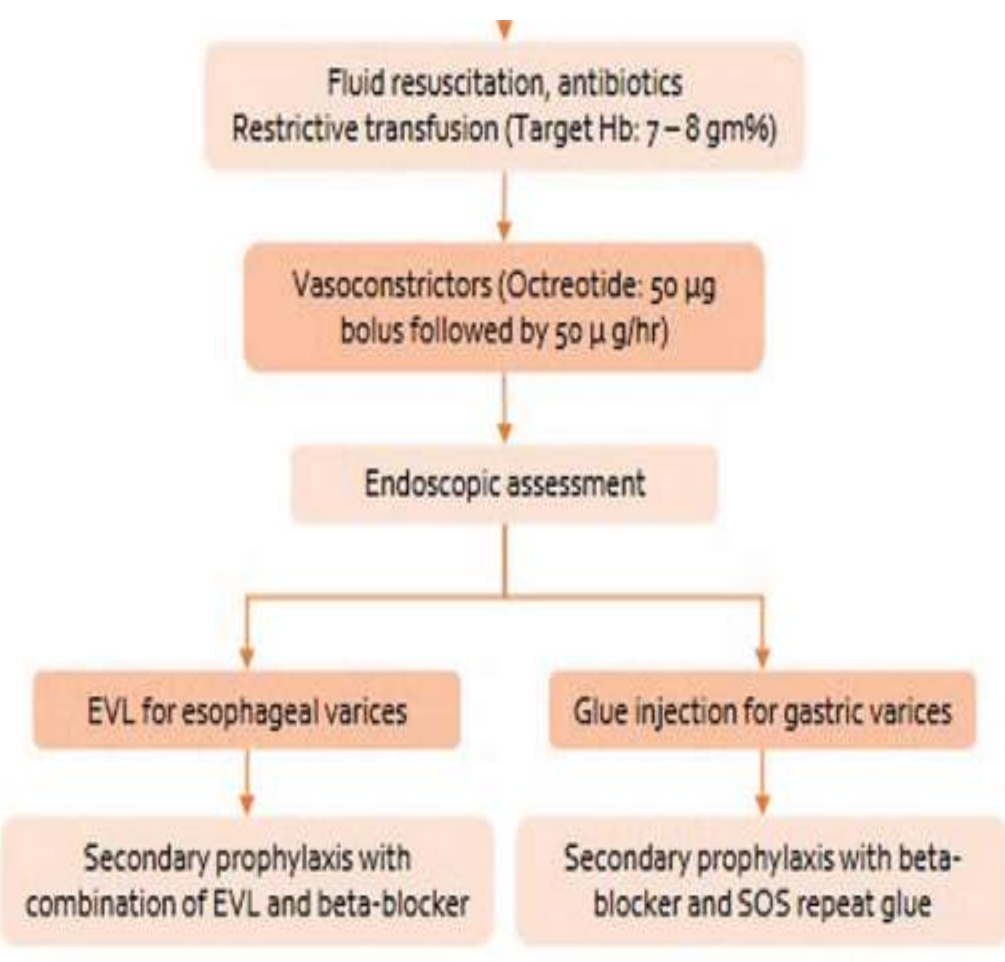
- Vaginal delivery is preferred, with a shorter second stage of labor, as repeated Valsalva maneuver leads to an increased risk of variceal bleeding.
- Forceps or vacuum extraction can be considered, if necessary, to shorten the second stage.
- Prophylactic shortening of the second stage of labor can be done to avoid overstraining by the mother
- LSCS for all patients with PHT, should be reserved only for obstetric and fetal indications due to a higher risk of post surgical bleeding in the setting of PHT

- There are no studies that have compared the outcome of vaginal delivery
- Platelet count of at least 50,000/mm3 is required to perform LSCS safely;

Postpartum Management

- Strict postpartum monitoring - increased risk of PPH due to associated thrombocytopenia.

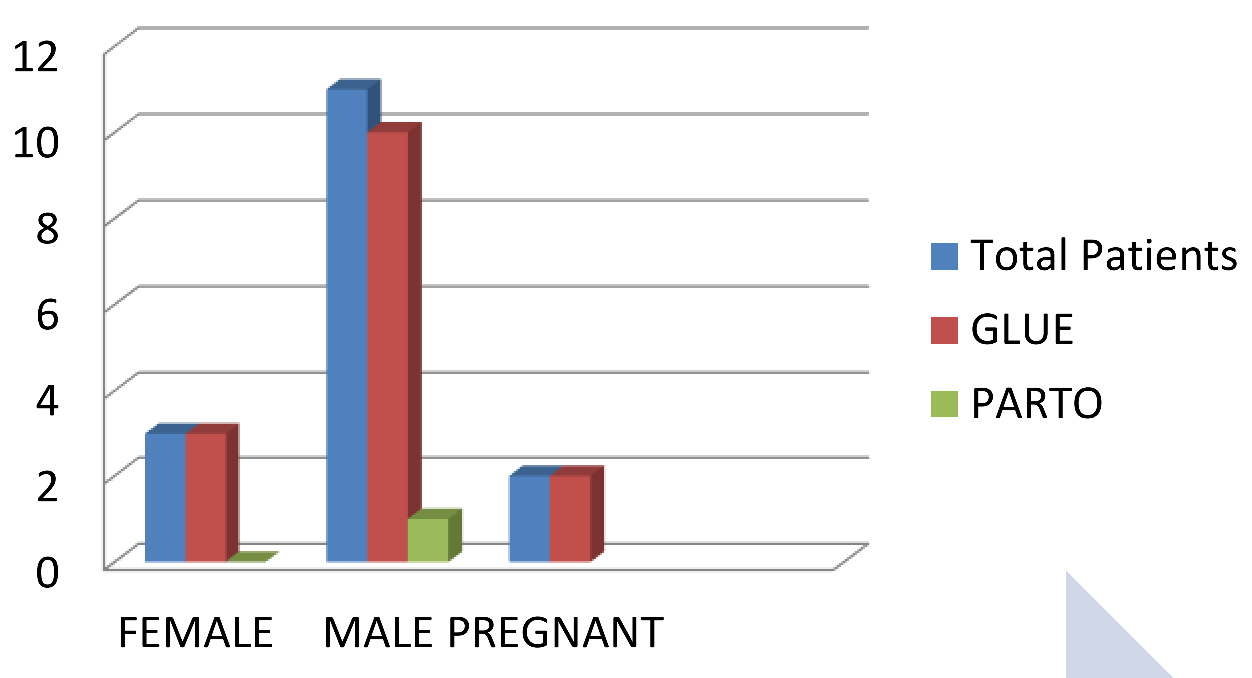
MANAGENT OF VARICEAL BLEEDING IN PREGNANCY



Conclusion

- Women with EHPVO would have a good pregnancy outcome if they were managed in a tertiary care center with a multidisciplinary approach.
- Variceal bleeding is associated with poor maternal and fetal outcomes; hence, effective control of PHT should be the primary aim of management

Gastric varices Data in DPU



Total Males 11

Females 3

13-Glue

1-PARTO

1 re-bleed of glue treated case;managed with glue

Thank you

Introduction

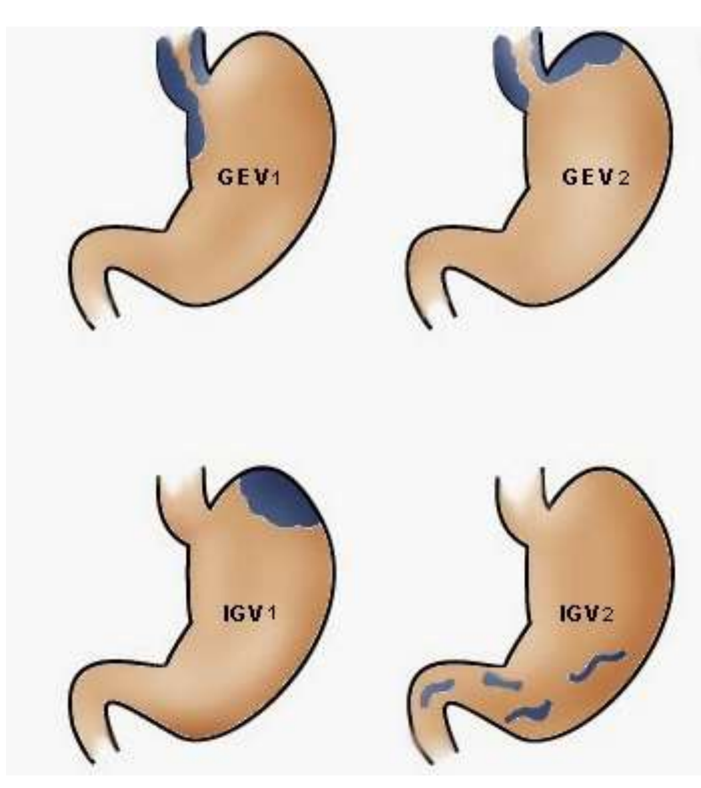
- Incidence of Gastric varix - 17 to 25 % of patients with portal hypertension.
- Cumulative risk of bleeding of incidentally detected Gastric Varices(GV)

  1 year-16%

  2 year-36%

- Around 35-90-% rebleed after spontaneous hemostasis.
- The mortality rate from the first variceal bleed is high at around 20% within 6 weeks of the index bleed.

Sarin's endoscopic classification of Gastric Varices



Initial management of suspected portal hypertensive bleed

- Assess circulatory and respiratory status
- Fluid resuscitation
- Vasoactive agents - Somatostatin, Terlipressin
- Antibiotic prophylaxis
- Target Hb 7 to 8 gm/dl for non cardiac patient and 9 to 10 gm/dl for cardiac patient

Management

Endoscopic

- Cyanoacrylate Glue injection
- EUS Guided coiling
- EUS Guided Glue injection
- EUS Guided Coil + Glue
- Sclerotherapy
- Fibrin glue/thrombin injection
- Band ligation

Radiological/Endovascular

- TIPS
- BRTO / PARTO /CARTO

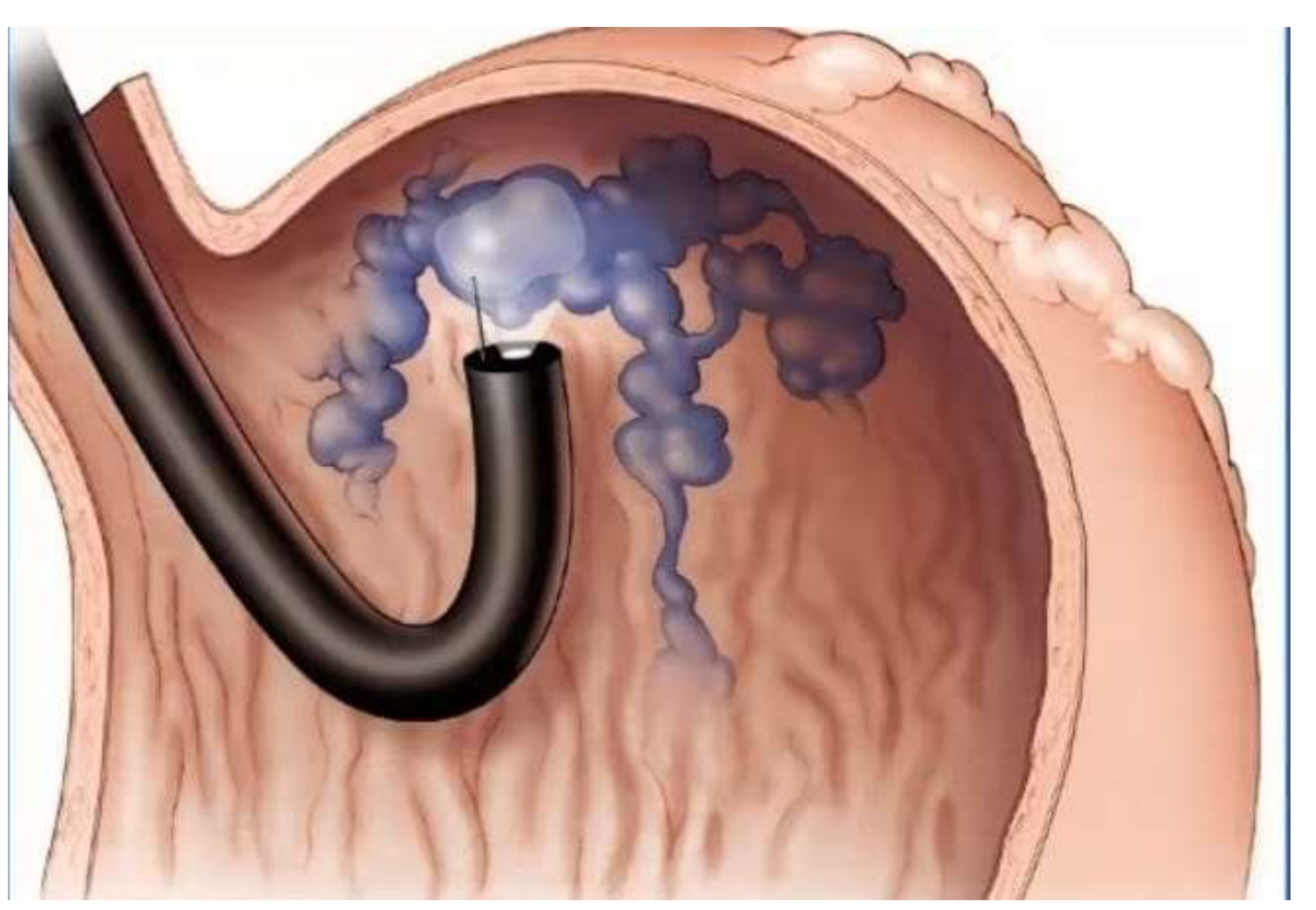
Cyanoacrylate injection

- N-Butyl 2 cyanoacrylate
- 2-octyl-cyanoacrylate
- Glubran-2 (NBCA plus methyl acryloxysulfolane)

<u>Mechanism of action:</u>

- Cyanoacrylate → contact with hydroxyl ions in water

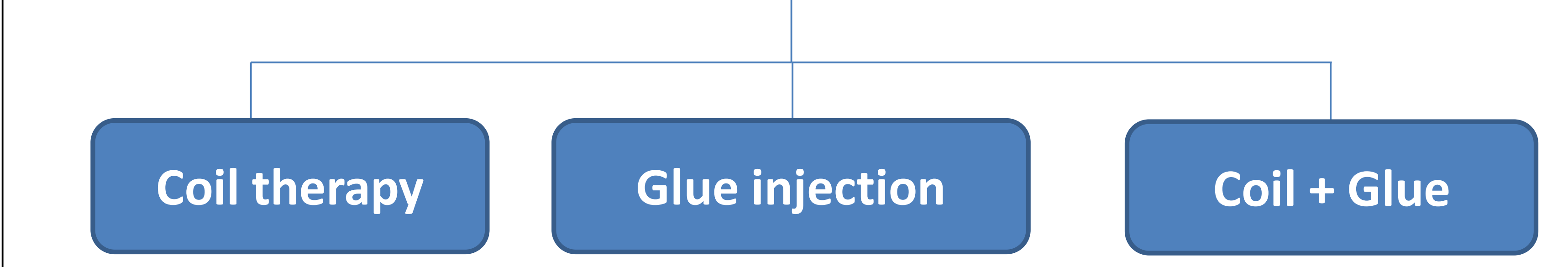
exothermic polymerization



Complications of Glue

- Thromboembolic – splenic , renal , pulmonary , coronory , cerebral .
- Gastric ulceration
- Retro gastric abscess
- Visceral fistula formation
- Sepsis
- Needle stuck into varix

EUS GUIDED THERAPY



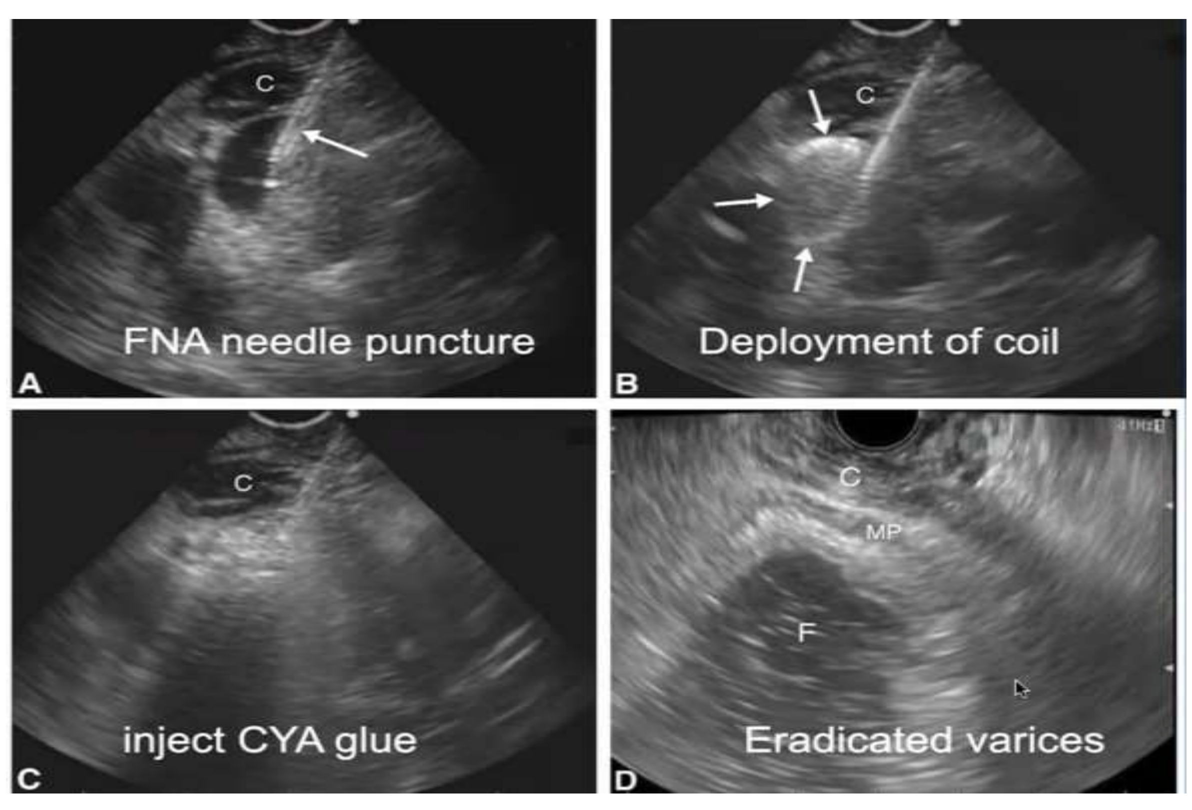
Emerged as valuable tool for

- Diagnosis
- Treatment planning
- Evaluation of treatment efficacy
- Helps visualize varices , collateral veins and allows to predict varices at high risk

ADVANTAGES OF EUS

- Localization
- Differentiate Gastric varix from others
- Detect perforating vein
- Guide injection – Sclerosants , Glue , Thrombin
- Detect – Residual varices , perforators , collaterals
- Doppler – Efferent and afferent vessel

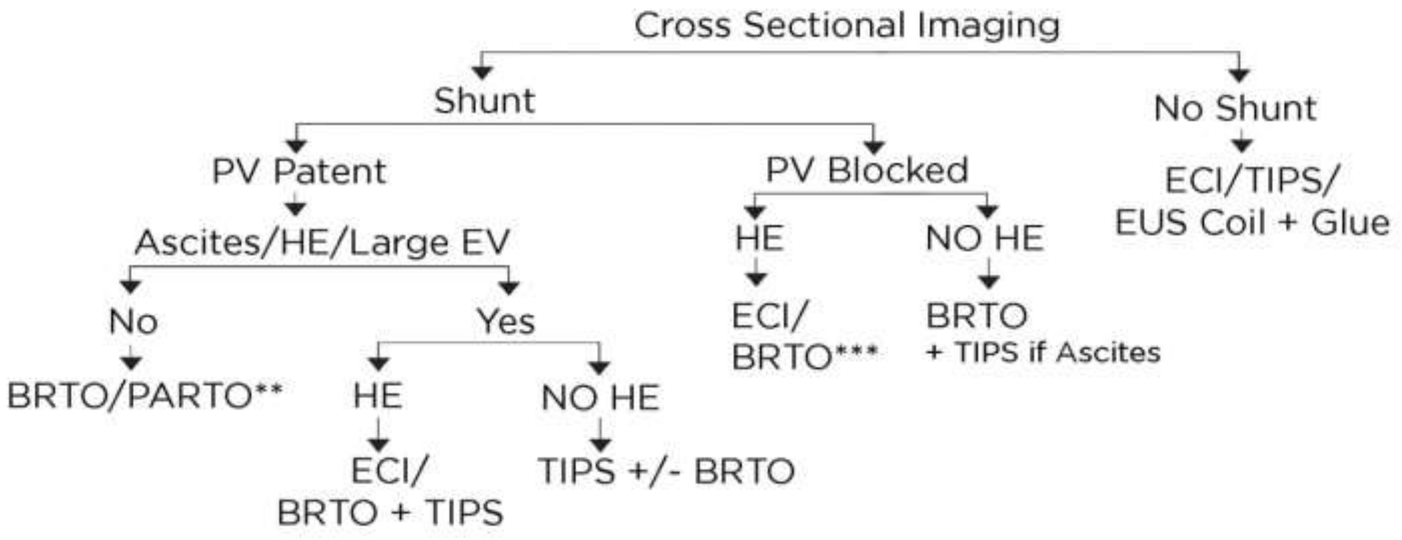
EUS Guided Coil + Glue



Bleeding Gastric Varices

Resuscitation and optimization
ECI Standard Therapy For All GV

Uncontrolled Bleed, Rebleed, Recurrent bleeding GV*



*Multidisciplinary team discussion - Hepatologists, Endoscopists, Interventional Radiologists if bleeding persists despite adequate ECI

**RIsk of Developing Ascites requiring diuretics 30% at 1 year

***Chronic PVT with collaterals may be considered for BRTO

THANK YOU