THE MANAGEMENT OF UPPER GASTROINTESTINAL HAEMORRHAGE

Learning outcomes

- **LO1: Definition and mode of presentation.**
- **LO2: Principles of UGIT bleeding management.**
- **LO3: Management of UGIT bleeding .**
- **LO4: Non pharmacological treatment**

LO1: INTRODUCTION

***LO1*: *Definition*:**

Any bleeding from GI tract proximal to ligament of treitz.

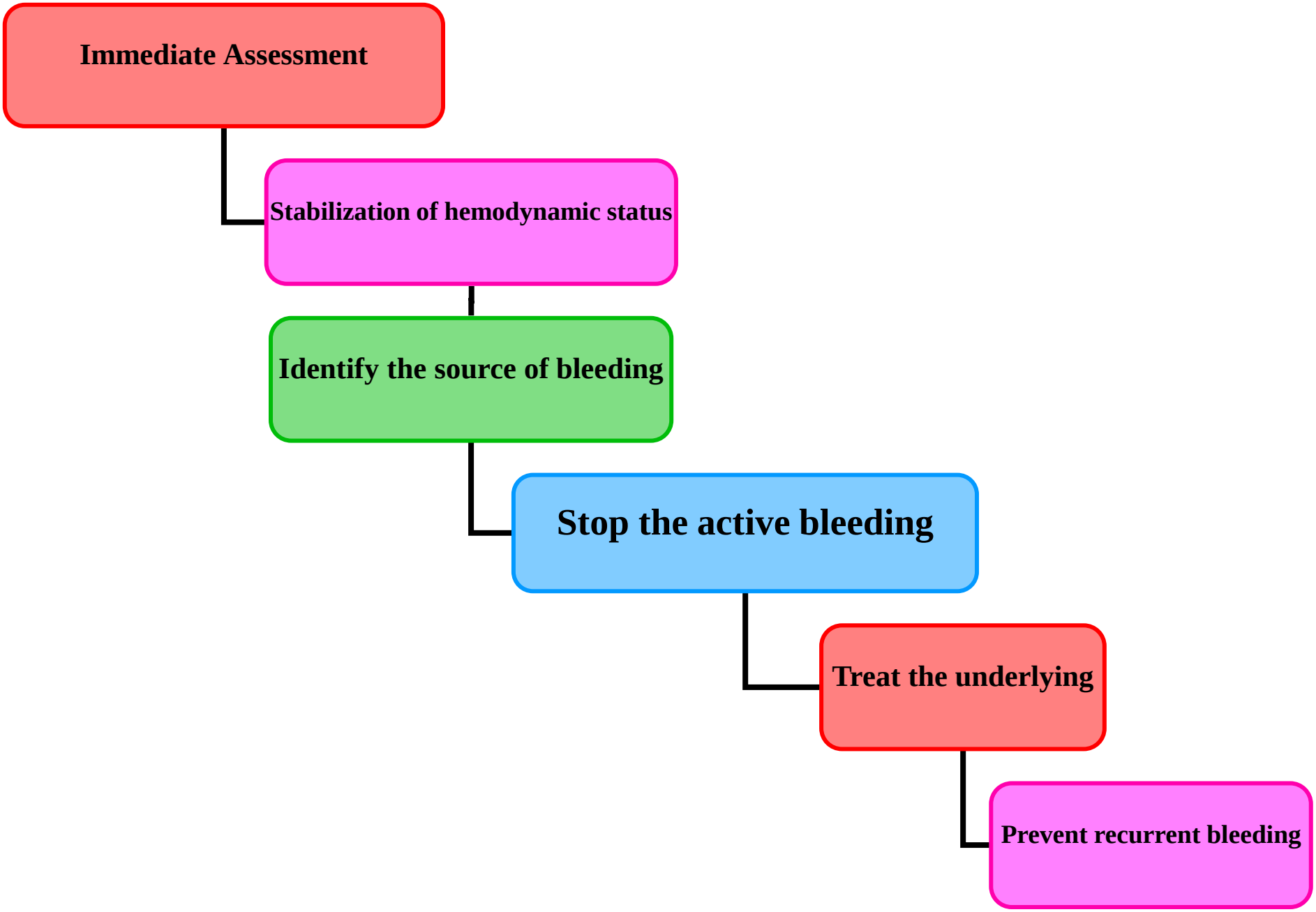
It is a common cause of emergency hospital admission and accounts for 5-10% mortality which increase in the *elderly*.

LO1: Modes of presentation

- **Hematemesis** Vomiting of fresh or old blood
  Proximal to Treitz ligament
  Bright red blood = significant bleeding
  Coffee ground emesis = no active bleeding

- **Melena** Passage of black & foul-smelling stools
  Usually upper source – may be right colon

- **Hematochezia** Passage of bright red blood from rectum
  If brisk & significant → UGI source


Immediate Assessment
Stabilization of hemodynamic status
Identify the source of bleeding
Stop the active bleeding
Treat the underlying
Prevent recurrent bleeding

LO2: ASSESSMENT

Patient presenting with cardiovascular instability requires prompt resuscitation before detailed history and examination to find the cause of bleeding and other co-morbidity

LO2: Severity of bleeding can be determined:

- **Level of consciousness - obtundation**
- **Pulse rate >100bpm**
- **Postural hypotension.**
- **Severe blood loss—Vagal slowing of the heart**

LO2: RESUSCITATION

- Aggressiveness of resuscitation depends on the **bleeding severity**

- Inadequate resuscitation leads to Multi-organ failure.

LO2: RESUSCITATION

- Ensure a **patent airway** and breathing.
- Elevate foot of bed to about 15^{o}
- Secure **IV access,** take samples; PCV, Urea, E, cr, Platelet count, LFT.
- IV **crystalloid**, N/S R/L 1L over 30-45min
- Pass **urethral catheter**, empty the bladder then monitor urine output. (0.5-1ml/kg/min)
- Reassess PR, BP, CVP**, urine output**, to determine the rate of infusion
- **Supplemental Oxygen---**enhances oxygen carrying capacity of blood

LO2: RESUSCITATION

- **Pass N-G tube-**
  - Decompression, prevent aspiration
  - Cold saline lavage
- **Transfuse;**
  - significant blood loss or PCV <30
  - on going bleeding,
  - inadequate response to fluid resuscitation,
  - elderly
  - presence of cardiopulmonary disease
- **Sedation**
  - Sedation to quieten patient.

LO3:HISTORY

- History to find the **cause, co-morbidity and character(onset, volume and frequency)** of bleeding. Careful history and physical examination may yield no definitive cause in 50%.
  - HX of PUD
  - Alcohol ingestion
  - NSAID
  - Dysphagia

LO3:HISTORY

- **COMMON CAUSES**
- Duodenal ulcer
- Gastric ulcer
- Stress ulcer
- Esophageal varices

LO3: HISTORY

- **LESS COMMON CAUSES**
- Esophagitis
- Mallory- Weiss syndrome
- Malignant gastric tumors
- Benign gastric tumors
- Esophageal ulcers or tumor
- Para-esophageal hiatal hernia

LO3:HISTORY

- **RARE CAUSES**
  - Duodenal tumors
  - Aorta-enteric fistula
  - Blood dyscrasia
  - Hereditary telangiectasia
  - Angiodysplasia

LO3:EXAMINATION

- Pallor
- Sweating
- Cold extremities
- Nostrils/ pharynx
- Epigastric tenderness

LO3:EXAMINATION

- Collapse subcutaneous veins
- Tachycardia
- Hypotension
- Restlessness
- Features of CLD, gastric ca, abdominal masses,

RISK SCORING

- **ROCKALL'S RISK SCORE**
- Score that **predicts poor prognosis**, i.e. rebleeding and mortality from upper GI haemorrhage
- It uses clinical criteria (increasing age, co-morbidity, shock) as well as endoscopic finding (diagnosis, stigmata of spontaneous haemorrhage -SSH)

ROCKALL'S SCORE

Variable	0	1	2	3
Age (yrs)	< 60	60-80	>80	
Shock	SBP>100mmHg HR<100 bpm	SPB>100mmHg HR>100bpm	SPB<100mmHg	
Co-morbidity	No major co-morbidity		Heart failure Ischemic heart disease Any co-morbidity	Renal Failure Liver disease Disseminated malignancy
Diagnosis	Mallory-Weiss tear. No lesion identified. No SSH		Malignancy of upper GIT	
Major SSH	None/Clean base. Dark spot sign on ulcer base		Adherent clot. Visible vessel (non bleeding). Oozing bleeding, spurting arterial vessel	

Risk category:

High (> 5)

Intermediate (3–5)

Low (0–2)

Total score	Mortality rate(%)	Rebleeding rate(%
0	0	4.9
1	0	3.4
2	0.2	5.3
3	2.9	11.2
4	5.3	14.1
5	10.8	24.1
6	17.3	32.9
7	27.0	43.8
≥8	41.1	41.8

LO3: MANAGEMENT AS PER RISK

- Low risk (0-2);usually 80% of patients recovers spontaneously with medical treatment(PPI) + hospitalization for 24hrs and may be discharge if uneventful.
- Intermediate risks(3-5); same treatment + hospitalization for at least 72 hrs.
- High risk(>5); same treatment + hospitalization in ICU

LO3:DETERMINATION OF BLEEDING SITE

- NG-tube aspiration
- Endoscopy
- Barium studies
- Angiography
- Tagged RBC scan

N-G TUBE ASPIRATION

Nasogastric aspiration with saline lavage is beneficial

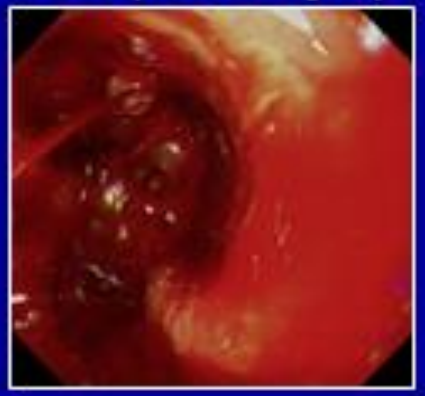
- to detect the presence of intragastric blood,
- to determine the type of gross bleeding,
- to clear the gastric field for endoscopic visualization
- to prevent aspiration of gastric contents.

ENDOSCOPY

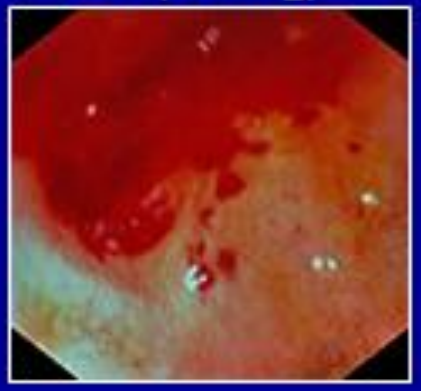
- **Diagnostic; direct visualization of source of bleeding**
- **Therapeutic; control of active bleeding**
- **To assess the prognostic indicator using the Forrest classification**

Forrest's classification for PU bleeding

I-a (arterial jet)



I-b (oozing)



II-a (visible vessel)

II-b (adherent clot)

II-c (black spot)

III (clean base)

TREATMENT

- **Non-operative**
- **Operative**

NON OPERATIVE

Peptic ulcer disease

- Endoscopic
- PPI
- Elimination of H. pylori

- ***Endoscopic therapy***:
  - Injection of adrenaline at the base of the vessel/ Sclerotherapy
  - Bipolar electro- / thermal probe **coagulation**
  - Argon plasma / laser **photocoagulation**
  - Hemostatic materials, including **biologic glue**

NON-OPERATIVE

- If bleeding controlled:
- **PPI- proton pump inhibitor**
  - omeprazole/pantoprazole, 80 mg bolus
    then 8 mg/hr infusion x 24 hrs.
    then 40 mg IV OD/BD
    then transition to oral PPIs for 6-8 wks.

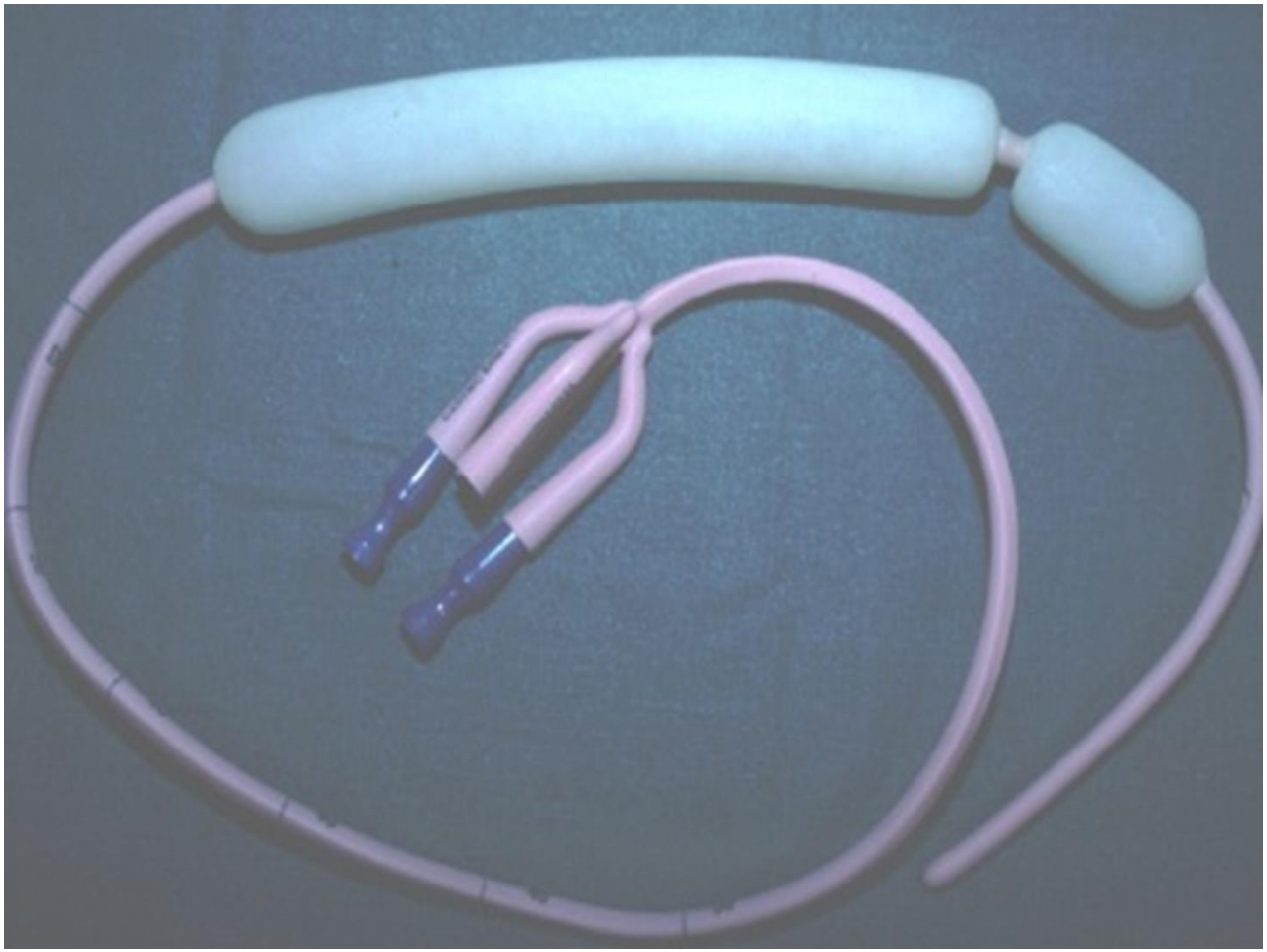
- **Helicobacter pylori treatment**, if present
  triple drug regimen x 2-3 wks.
  recurrent colonization 70-90% within few month to years.

- Repeat endoscopy < 6-8 wks.

NON-OPERATIVE

- VARICES
  - Balloon tamponade
  - Pharmacological
  - Endoscopic
  - Transjugular intrahepatic portosystemic stent-shunt (TIPSS)

Sengstaken blakemore tube



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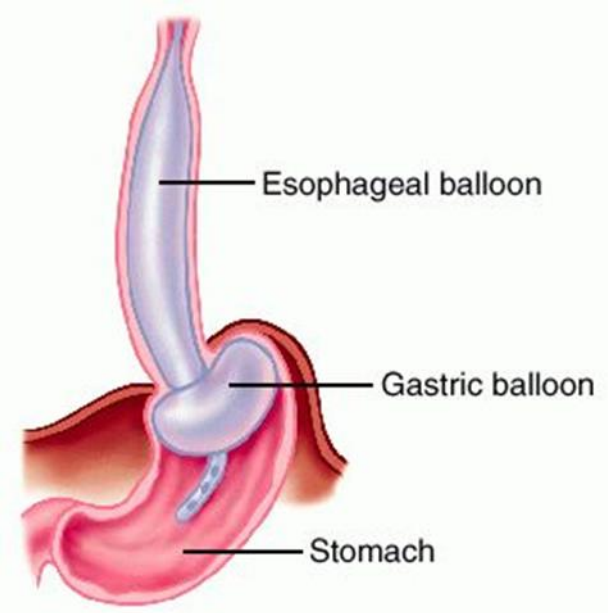
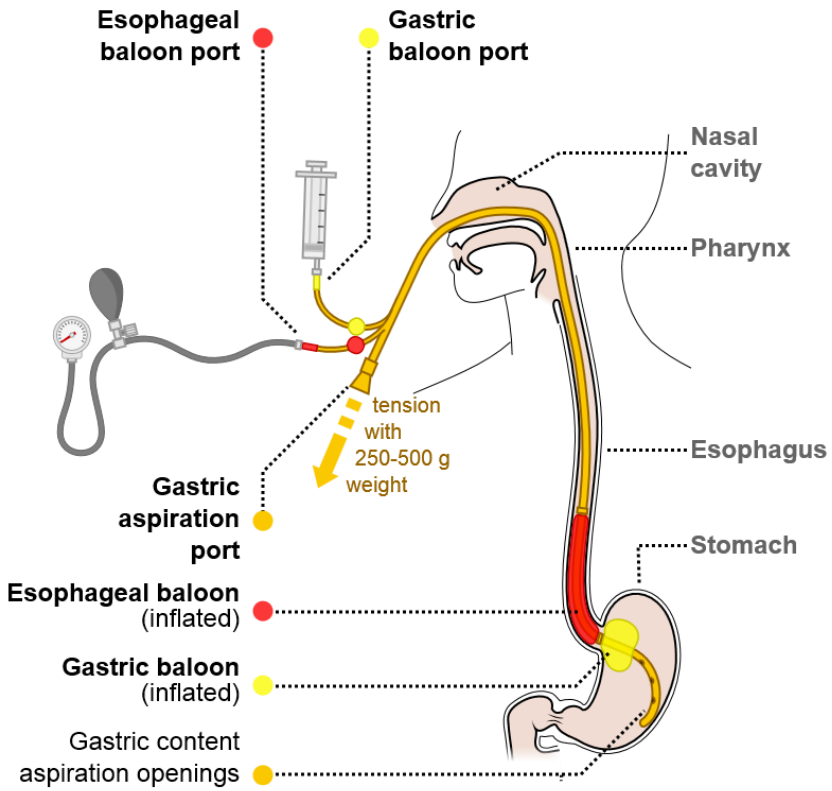




- **Pharmacologic treatment :**
- **Vasopressin splanchnic vasoconstriction; 20IU in 250ml of 5% DW over 30min, 4hrly.**
- ***Telipressin* (pro-drug) better hemostasis and survival benefits. And longer duration of action.**
  - **Side effects**
    - **Pallor**
    - **Hypertension**
    - **Abdominal colic**
    - **Cerebral and coronary ischemia**
  - **Nitroglycerine: 40 mcg/min may be given simultaneously to prevent coronary ischemia.**

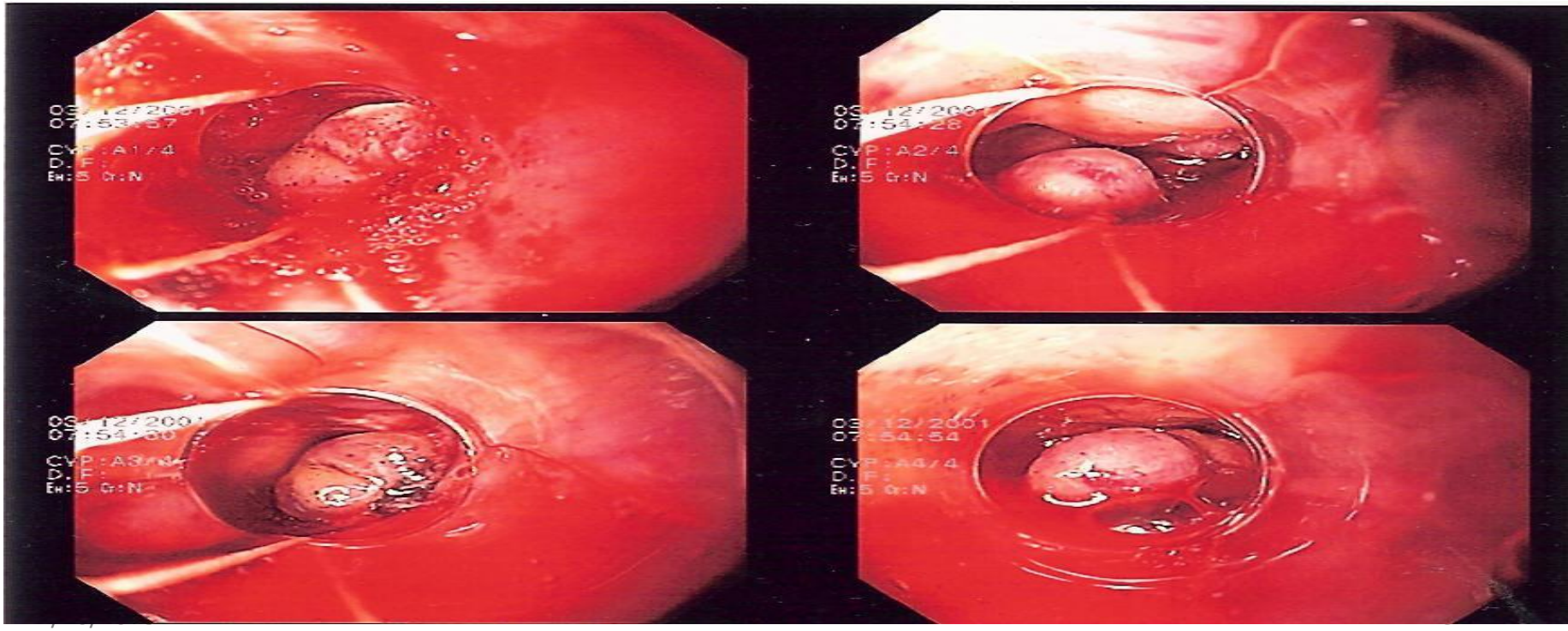
- **Glypressin: contains both nitroglycerin and vasopressin**

- **Beta-Blockers: Propranolol 40 mg bid.**

- **Octreotide: 250 mcg bolus, 250 mcg/hr infusion; Decreases gastric acid, pepsin, gastric blood flow**

Endoscopy

- **Sclerotherapy;**
  - **Ethanolamine oleate (3-5ml) or sodium morrhuate is injected into each varies.**
  - **If the bleeding is controlled, injection is repeated weekly, then at 3weeks and at 3monthly until varies obliterate.**



- **Band Ligation**; **is efficacious and is now preferred to Sclerotherapy**

- **TIPSS;**
  - In refractory bleeding after sclerotherapy or band ligation.
  - A shunt is established between the portal vein and the right or middle hepatic vein