CLINICAL VIGNETTE
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UPPER GASTRO INTESTINAL BLEEDING
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Presentation…

- K.R. 36yrs, Male
- Vomiting of blood, Passage of dark coloured stool - 1/7
- 8 episodes of passage of dark tarry stool and 2 episodes of vomiting of bright red blood
- Associated dizziness, generalised weakness and recurrent fainting spells
- Known Peptic ulcer disease patient (X5yrs) with poor drug compliance and clinic follow up despite recurrent dypepsia
Presentation

• Examination: Conscious, markedly pale, cold clammy extremities
• PR – 96bpm RR – 24cpm Bp- 86/40mmgh
• Abdomen – Supraumbilical hernia 5X4 cm, reducible, No tenderness
  • Rectum empty
  • Gloved stained finger stained with dark tarry stool
• Assessment : Massive upper GI bleeding with shock
  Aetiology- bleeding Peptic Ulcer Disease (PUD)
Treatment

• Resuscitation (Crystalloids and blood), amoxicillin, metronidazole, omeprazole- 5 pints of blood (2 intra-op: 5 post-op), 2FFP post-op
• Emergency exploratory laparotomy & Operative findings: bleeding (oozing) ulcer in posterior aspect of 1st part of duodenum
• 5th day post op: DRE – gloved finger stained with melaena
  Omeprazole to nexium 40mg bd
• Discharged 7th Post surgery with normal coloured stools & Guaiac negative
Discussion- Introduction

• Bleeding that arises from the GI tract proximal to the ligament of Treitz
• Potentially life threatening emergency
• Common cause of hospitalization & GI emergencies
• Accounts for nearly 80% of significant GI haemorrhage
• M:F = 2:1
• 85% spontaneous cessation of bleeding: non-operative management
• Aetiology differs throughout the world- geographical difference
• Mortality rate: 6-13% despite advances in critical care support & monitoring
## Discussion — Aetiology

1. PUD - 50%
2. Oesophagitis - 15%
3. Gastritis - 10%
4. Varices - 10%
5. Duodenitis - 5%
6. Mallory–Weiss syndrome
7. Esophageal ulcer - 3%
8. Carcinoma - 3%

- AV malformations
- Blood dyscrasias
- Gastric Antral Vascular ectasia
- Aorto enteric fistula
- Hematobilia
- Hemosuccus pancreaticus
- Iatrogenic
**OESOPHAGEAL VARICES**
- Dilated submucosal veins
- Develop in response to portal HTN
  - liver cirrhosis
- Usually occur at distal 3\(^{rd}\)
- Minimal trauma can provoke bleeding

**OESOPHAGITIS**
- Oesophageal inflammation
- Secondary to repeated exposure of the oesophageal mucosa to the acidic secretions in GERD
- Other causes- immunocompromised, medications, Crohn’s disease & radiation

**MALLORY – WEISS SYNDROME**
- 1-4cm longitudinal tear in the gastric mucosa and submucosal near the GEJ
- Occurs in alcoholics after binge drinking
- Repeat vomiting in Hyperemesis Gravidarum

**STRESS GASTRITIS**
- Multiple superficial erosions of the entire stomach- most commonly in the body
- Combination of acid and pepsin injury

**DIEULAFOY’S LESION**
- Large tortuous arterioles in the gastric submucosa- within 6cm distal to the GEJ
- Found primarily in the lesser curvature OR extra gastric region- duodenum
IATROGENIC BLEEDING
• Percutaneous transhepatic procedures
• Endoscopic sphincterectomy
• Percutaneous endoscopic gastrostomy placement
• Upper GI surgeries

PORTAL HYPERTENSIVE GASTROPATHY
• Diffuse dilation of the mucosal and submucosal plexus with overlying gastritis
• Snakeskin appearance and cherry red spots on endoscopy

HEMOSUCCUS PANCREATICUS
Bleeding from the pancreatic bed
Erosion of pancreatic pseudocyst into the splenic artery

GASTRIC ANTRAL VASCULAR ECTASIA
Characterized by a collection of dilated venules
Appearing as linear red streaks
Converging on the artrum in longitudinal fashion

AORTOENTERIC FISTULA
Abdominal aortic aneurysm repair
Inflammatory/infectious aortitis
- Pseudoaneurysm, Fistulation into the duodenum
Discussion... African data

• Nigeria, Ado Ekiti
  *Ajayi et al, 2013- M: F =1.5:1; Mean age 41.84yrs (17-75yrs)
  Gastritis  49%, Peptic ulcer disease 25.4%, Oesophageal varices 11.9%

• Uganda-5 year Retrospective study
  *Alema et al- M:F= 1.1, Mean age 42.9%, Oesophageal varices 40.6%, Oesphagitis 14.1%, Peptic ulcer disease 6.2%
Discussion... PUD

• Most common cause of upper GI Bleeding in Lagos
• Gastric or duodenal
• Failure of the defense mechanism of gastroduodenal mucosa
• Sole presence of the aggressive factors acid/pepsin is not enough to explain peptic ulceration
• Risks- Drugs e.g NSAID, Selective serotonin receptor inhibitors, H-pylori, Smoking, Alcohol
TREATMENT

- **Resuscitation with intravenous fluids**
  - Crystalloid and or colloids
  - Fresh whole blood, fresh frozen plasma
  - Platelet concentrate

- **Non operative management**
  - **Endoscopic therapy: Forrest classification to prognosticate**
    - Acutely bleeding lesion
    - Non bleeding visible vessels
    - Ulcer with adherent blood clot

*Treatment of choice for bleeding PUD*

- **Interventional Radiology - Embolization**

- **Open surgical treatment**
  - When endoscopic technique fails or is contraindicated
  - Elderly patient who are unstable
  - Patient who has gotten more than 4 pints of blood and still unstable
  - Patient with rare blood group
  - Jehovah witness
RISK ASSESSMENT

• Early risk stratification using validated prognostic scales and early endoscopy (within 24 hours)

• Risk assessment scores recommended include
  • BLATCHFORD score at first assessment
  • Full ROCKALL score pre and post endoscopy.
  • FORREST

ROCKALL SCORE
Pre and post endoscopy
Patient with an initial Rockall score >0, endoscopy is recommended for a full assessment of bleeding risk
Rockall Numerical Risk Scoring System
Initial Score criteria (prior gastroscopy)

- **Age:** 
  - $< 60 = 0$
  - $60-79 = 1$
  - $> 80 = 2$

- **Shock:** 
  - *No shock (SBP > 100 mmHg, PR < 100 bpm) = 0*
  - *Tachycardia (SBP > 100 mmHg, PR > 100 bpm) = 1*
  - *Hypotension (SBP < 100, PR > 100) = 2*

- **Comorbidity:** 
  - *No major comorbidity = 0*
  - *Cardiac failure, hepatic disease = 1*
  - *Renal or liver failure, disseminated malignancy = 3*
  - *Initial score = $x/7$*
BLATCHFORD RISK ASSESSMENT

• Designed to be used pre-endoscope
• Scores are added using the level of
  • Urea
  • Haemoglobin
  • Systolic blood pressure
  • Pulse rate
  • Presentation with melaena
  • Presentation with syncope, hepatic disease, and cardiac failure
  • Score of zero is the cut off
  • Score>0 indicate risk of requiring interventions
Forrest Classification

- Predicts the likelihood of rebleeding and mortality into high and low risk. I-IIA= high; the rest low

**Acute hemorrhage**
- Forrest I a (Spurting hemorrhage)
- Forrest I b (Oozing hemorrhage)

**Signs of recent hemorrhage**
- Forrest II a (Visible vessel)
- Forrest II b (Adherent clot)
- Forrest II c (Flat pigmented haematin on ulcer base)

**Lesions without active bleeding**
- Forrest III (Lesions without signs of recent hemorrhage or fibrin-covered clean ulcer base)
VARICEAL BLEEDING

- Terlipressin, vassopressin, propanolol, nitroglyceride can be given at presentation; stopped after definitive haemostasis have been archived
- Prophylactic antibiotics should be commenced
- Balloon tamponade should be considered as a temporary salvage treatment
  - Sengstaken – Blakemore balloon
  - Minnesota-Nachlas tubes

**Oesophageal varices**
- Band ligation
- Stent insertion
- Transjugular intrahepatic portosystemic shunt (TIPS)

**Gastic variceal**
- Endoscopic injection of N-butyl-2-cyanoacrylate
- Transjugular intrahepatic portosystemic shunt TIPS
ENDOSCOPIC TREATMENT OF NON VARICEAL BLEEDING

- Mechanical method - clips with or without epinephrine
- Thermal coagulation with epinephrine
- Application of fibrin or thrombin with epinephrine
COMPLICATIONS UPPER GI BLEEDING

- Bleeding-hypovolaemia, renal failure, cardiac arrest and death
- Procedures
  - Endoscopy- perforation, aspiration pneumonitis
  - Surgery – ileus, sepsis ,wound infection
- Salvage surgery for patients who continue to bleed is associated with a high mortality
PROGNOSIS

- Elderly patient & patients with chronic medical conditions withstand acute Upper GI bleeding less well
- Mortality is as high as 26% in patient who develop bleeding whilst in the hospital having being admitted for another cause
- A score of < 3 using Rockall score system is associated with an excellent prognosis whereas a score of > 8 is associated with high mortality
- Mallory-Weiss tears or clean ulcers - less mortality
- Active bleeding in a shocked patient - 80% risk of rebleeding and death

*Factors which affect the risk of death include
  - Advanced age
  - Comorbidity
  - Presence of shock at presentation
References

