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**UPPER GASTRO INTESTINAL
BLEEDING**

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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 dyspepsia

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 through out 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 3rd
- 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

GASTRIC ANTRAL VASCULAR ECTASIA

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

PORTAL HYPERTENSIVE GASTROPATHY

- Diffuse dilation of the mucosal and sub mucosal 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

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 24hours)
- 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 –Blakemoreballoon
 - 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

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