Upper GI Bleeding.
RECA CONFERENCE
2016

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CMHS / UR.
Upper GI Bleeding - Definitions

• Upper GI bleeding – Proximal to Ligament of Treitz
• Hematemesis – Vomiting blood (red blood or hematin “coffee-ground” emesis)
• Melena – Dark BLACK tarry stools
• Hematochezia – Bloody stools (bright red OR maroon)
Definitions (cont)

• Obscure bleeding – No clear source despite standard upper and lower endoscopy

• Occult bleeding – No typical SYMPTOMS of bleeding (no melena, hematemesis, hematochezia) despite SIGNS of bleeding (iron-deficiency anemia, hemoccult positive stool)

• Obscure, occult bleeding – No clear source, no typical symptoms
UGT BLEEDING: CAUSES.

USA

Gastric ulcers 7%
Others 7%
Gastritis 8%
Tumors 13%
Normal findings 14%
Esophageal varices 17%
Duodenal ulcers 34%

CHUK

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Others 7%
Gastritis 8%
Tumors 13%
Normal findings 14%
Esophageal varices 17%
Duodenal ulcers 34%

Others:
Gastroduodenal anastomosis.
Esophagitis.
Mallory Weiss tear.
Gastric submucosal hemorrhage.
Congestive gastric mucosa.
UGI HEMORRHAGE - CHUK

CHUK 2015: N=150

- Duodenal ulcers: 34%
- Esophageal varices: 17%
- Tumors: 13%
- Gastric ulcers: 7%
- Gastritis: 8%
- Normal findings: 14%
- Others: 7%

CHUK JAN_ JULY 2016: N=98

- Duodenal ulcers: 32%
- Esophageal varices: 18%
- Tumors: 9%
- Gastric ulcers: 7%
- Gastritis: 9%
- Normal findings: 20%
- Others: 5%

Others:
- Gastroduodenal anastomosis
- Esophagitis
- Mallory Weiss tear
- Gastric submucosal hemorrhage
- Congestive gastric mucosa

Upper GI bleeding N=98

Others:
- Gastroduodenal anastomosis
- Esophagitis
- Mallory Weiss tear
- Gastric submucosal hemorrhage
- Congestive gastric mucosa
UGI HEMORRHAGE - USA

OVERALL

RARE CASES

- AVMs
- Stomal ulcer
- Dieulafoy’s lesion
- Watermelon stomach
- Hemobilia
- Connective tissue disorder
- Kaposi’s sarcoma
- Aorto-enteric fistula
- Benign tumors
- Others

- Duodenal ulcer
- Gastric ulcer
- Esophagitis
- Varices
- Mallory-Weiss
- Duodenitis
- Rare causes
- Unknown
- Tumors
- Gastric erosions
- Rare causes
Resuscitation: Initial Evaluation

• Evaluate hemodynamics and intravascular volume
  - Monitor vitals (BP, HR, RR)
  - Check orthostatic vital signs

• TWO large bore IV access (18 g or larger)

• Laboratory investigations
  • FBC, coagulation profile (aPTT & PT), renal function, LFTs, Hepatitis screening, BLOOD GROUP/Rh, type and cross 2-4 units of packed red cells,
Resuscitation: Goals

• TWO 16-18g IV in SEPARATE limbs

• IV Crystalloid (0.9% Na)

• Target SBP >100, HR <100

• Hgb >7 g/dl (10 g/dl for signs of CAD)

*should not delay treatment
Resuscitation: Correction of Coagulopathy

✓ Stop NSAIDs and Anti-coagulants

✓ Platelets >50K

✓ INR >1.6 => FFP 2-4 units.

✓ Vit K SC or IM - 10mg OD X 3/7 for patients elevated INR or prolonged PT

✓ Protamine IV: 1mg reverses 100 U heparin
Indications for Intubation

- Massive hematemesis
- Shock
- Suspected portal hypertension
- Altered mental status
Diagnosis

• ANAMNESE & PHYSICAL EXAMINATION: HEMATEMESIS, MELENA (PR exam)

• EGD : AS SOON AS THE PATIENT IS HEMODYNAMICALLY STABLE

• TAGGED RED BLOOD CELL [TRBC] SCANING.

• ARTERIOGRAPHY

• ENTEROSCOPY AND CAPSULE ENDOSCOPY
UGI HEMORRHAGE MANAGEMENT: CURRENT CONCEPTS:

VARICES AND VARICEAL HEMORRHAGE

1. Primary Prophylaxis against Variceal Hemorrhage.

NON-VARICEAL HEMORRHAGE:

- A. Resuscitation, risk assessment, and preendoscopy management.
- B. Endoscopic management.
- C. Pharmacologic management.
- D. Nonendoscopic and nonpharmacologic in-hospital management.
- E. Postdischarge, ASA, and NSAIDs
1. VARICES AND VARICEAL HEMORRHAGE: Primary Prophylaxis against Variceal Hemorrhage.

<table>
<thead>
<tr>
<th>Regimen†</th>
<th>Dose</th>
<th>Goal</th>
<th>Duration</th>
<th>Follow-up</th>
</tr>
</thead>
<tbody>
<tr>
<td>Propranolol</td>
<td>Starting dose of 20 mg given orally twice a day</td>
<td>Increase to maximally tolerated dose or until heart rate is approximately 55 beats/min</td>
<td>Indefinite</td>
<td>Ensure heart-rate goals met at each clinic visit; no need for follow-up endoscopy</td>
</tr>
<tr>
<td>Nadolol</td>
<td>Starting dose of 40 mg given orally once a day</td>
<td>Increase to maximally tolerated dose or until heart rate is approximately 55 beats/min</td>
<td>Indefinite</td>
<td>Ensure heart-rate goals met at each clinic visit; no need for follow-up endoscopy</td>
</tr>
<tr>
<td>Endoscopic variceal ligation</td>
<td>Every 2–4 weeks</td>
<td>Obliterate varices</td>
<td>Until variceal obliteration achieved (usually 2–4 sessions)</td>
<td>Perform first surveillance endoscopy 1–3 mo after obliteration, then every 6–12 mo indefinitely</td>
</tr>
</tbody>
</table>

* Therapies that should not be used as prophylaxis include nitrates alone, endoscopic variceal sclerotherapy, shunt therapy (either transjugular intrahepatic portosystemic shunt or surgical shunt), nonselective beta-blockers plus endoscopic variceal ligation, and nonselective beta-blockers plus nitrates.  
† Only one of the three regimens should be used.
2. First-Line Management of Acute Esophageal Variceal Hemorrhage[1].

<table>
<thead>
<tr>
<th>Regimen</th>
<th>Dose</th>
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<tbody>
<tr>
<td>Vasoconstrictor</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Octreotide</td>
<td>Intravenous 50-μg bolus, followed by infusion of 50 μg/hr</td>
<td>2–5 days</td>
</tr>
<tr>
<td>Terlipressin</td>
<td>2 mg given intravenously every 4 hr for first 48 hr, followed by 1 mg given intravenously every 4 hr</td>
<td>2–5 days</td>
</tr>
<tr>
<td>Somatostatin</td>
<td>Intravenous 250-μg bolus, followed by infusion of 250–500 μg/hr</td>
<td>2–5 days</td>
</tr>
<tr>
<td>Vapreotide†</td>
<td>Intravenous 50-μg bolus, followed by infusion of 50 μg/hr</td>
<td>2–5 days</td>
</tr>
</tbody>
</table>
2. First-Line Management of Acute Esophageal Variceal Hemorrhage[2]...

<table>
<thead>
<tr>
<th>Antibiotic</th>
<th>Intravenous ceftriaxone at a dose of 1 g once a day</th>
<th>5–7 days or until discharge</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ceftriaxone</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Norfloxacin</td>
<td>400 mg given orally twice a day</td>
<td>5–7 days or until discharge</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Endoscopic therapy</th>
<th>Once, at time of diagnostic esophagastroduodenoscopy</th>
<th>Until variceal obliteration achieved</th>
</tr>
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<tbody>
<tr>
<td>Endoscopic variceal ligation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Endoscopic variceal sclerotherapy</td>
<td></td>
<td>Only at diagnostic endoscopy</td>
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<td>Beta-blocker</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Propranolol</td>
<td>Start at 20 mg orally twice a day</td>
<td>Increase to maximally tolerated dose or until heart rate is approximately 55 beats/min</td>
</tr>
<tr>
<td>Nadolol</td>
<td>Start at 40 mg orally once a day</td>
<td>Increase to maximally tolerated dose or until heart rate is approximately 55 beats/min</td>
</tr>
<tr>
<td>Endoscopic variceal ligation</td>
<td>Ligate every 2–4 wk</td>
<td>Obliterate varices</td>
</tr>
<tr>
<td>Isosorbide mononitrate in association with a beta-blocker (either propranolol or nadolol)†</td>
<td>10 mg given orally every night, with stepwise increase to a maximum of 20 mg twice a day</td>
<td>Increase to maximally tolerated dose with maintenance of blood pressure at &gt;95 mm Hg</td>
</tr>
</tbody>
</table>

†Isosorbide mononitrate has been shown to improve hemodynamics; however, further research is necessary to determine the optimal dose and duration of therapy.
Nonvariceal UGI-Bleeding:
A. Resuscitation, risk assessment, preendoscopy management.

➤ A1. Immediately evaluate and initiate appropriate resuscitation.
➤ A2. Prognostic scales are recommended for early stratification of patients into low- and high-risk categories for rebleeding and mortality.
➤ A3. Consider placement of a nasogastric tube in selected patients because the findings may have prognostic value.
➤ A4. Blood transfusions should be administered to a patient with a hemoglobin level >70 g/L.
➤ A5. In patients receiving anticoagulants, correction of coagulopathy is recommended but should not delay endoscopy.
➤ A6. Promotility agents should not be used routinely before endoscopy to increase the diagnostic yield.
➤ A7. Selected patients with acute ulcer bleeding who are at low risk for rebleeding on the basis of clinical and endoscopic criteria may be discharged promptly after endoscopy.
➤ A8. Preendoscopic PPI therapy may be considered to downstage the endoscopic lesion and decrease the need for endoscopic intervention but should not delay endoscopy.
B. Endoscopic management [1]

- **B1.** Develop institution-specific protocols for multidisciplinary management.* Include access to an endoscopist trained in endoscopic hemostasis.

- **B2.** Have available on an urgent basis support staff trained to assist in endoscopy.

- **B3.** Early endoscopy (within 24 hours of presentation) is recommended for most patients with acute upper gastrointestinal bleeding.

- **B4.** Endoscopic hemostatic therapy is not indicated for patients with low-risk stigmata (a clean-based ulcer or a nonprotuberant pigmented dot in an ulcer bed).

- **B5.** A finding of a clot in an ulcer bed warrants targeted irrigation in an attempt at dislodgement, with appropriate treatment of the underlying lesion.

- **B6.** The role of endoscopic therapy for ulcers with adherent clots is controversial. Endoscopic therapy may be considered, although intensive PPI therapy alone may be sufficient.
B. Endoscopic management [2]

- **B7.** Endoscopic hemostatic therapy is indicated for patients with high-risk stigmata (active bleeding or a visible vessel in an ulcer bed).
- **B8.** Epinephrine injection alone provides suboptimal efficacy and should be used in combination with another method.
- **B9.** No single method of endoscopic thermal coaptive therapy is superior to another.
- **B10.** Clips, thermocoagulation, or sclerosant injection should be used in patients with high-risk lesions, alone or in combination with epinephrine injection.
- **B11.** Routine second-look endoscopy is not recommended.
- **B12.** A second attempt at endoscopic therapy is generally recommended in cases of rebleeding.
C. Pharmacologic management

- **C1.** Histamine-2 receptor antagonists are not recommended for patients with acute ulcer bleeding.
- **C2.** Somatostatin and octreotide are not routinely recommended for patients with acute ulcer bleeding.
- **C3.** An intravenous bolus followed by continuous-infusion PPI therapy should be used to decrease rebleeding and mortality in patients with high-risk stigmata who have undergone successful endoscopic therapy.
- **C4.** Patients should be discharged with a prescription for a single daily-dose oral PPI for a duration as dictated by the underlying etiology.
D. Nonendoscopic and nonpharmacologic in-hospital management

- **D1.** Patients at low risk after endoscopy can be fed within 24 hours.
- **D2.** Most patients who have undergone endoscopic hemostasis for high-risk stigmata should be hospitalized for at least 72 hours thereafter.
- **D3.** Seek surgical consultation for patients for whom endoscopic therapy has failed.
- **D4.** Where available, percutaneous embolization can be considered as an alternative to surgery for patients for whom endoscopic therapy has failed.
- **D5.** Patients with bleeding peptic ulcers should be tested for H. pylori and receive eradication therapy if it is present, with confirmation of eradication.
- **D6.** Negative H. pylori diagnostic tests obtained in the acute setting should be repeated.
E. Postdischarge, ASA and NSAIDs

- E1. In patients with previous ulcer bleeding who require an NSAID, it should be recognized that treatment with a traditional NSAID plus PPI or a COX-2 inhibitor alone is still associated with a clinically important risk for recurrent ulcer bleeding.

- E2. In patients with previous ulcer bleeding who require an NSAID, the combination of a PPI and a COX-2 inhibitor is recommended to reduce the risk for recurrent bleeding from that of COX-2 inhibitors alone.

- E3. In patients who receive low-dose ASA and develop acute ulcer bleeding, ASA therapy should be restarted as soon as the risk for cardiovascular complication is thought to outweigh the risk for bleeding.

- E4. In patients with previous ulcer bleeding who require cardiovascular prophylaxis, it should be recognized that clopidogrel alone has a higher risk for rebleeding than ASA combined with a PPI.
Endoscopic Therapeutic options

• Injection

• Thermal for PUD, AVM, or Mallory Weiss
  • Heater Probe
  • Bipolar Probe
  • Argon Plasma Coagulator

• Mechanical
  • Hemoclips for PUD or Mallory-Weiss
  • Banding for varices

• Combination
Thermal Probes

- Monopolar
- Bipolar
- Bipolar + Inj
Clips
ACUTE VARICEAL BLEEDING

Endoscopic Ligation

- Bleeding controlled in 90%
- Rebleeding rate reduced to 30%
- Compared with sclerotherapy:
  - less rebleeding
  - lower mortality
  - less complications
  - fewer treatment sessions
Initial Pharmacologic Therapy

• Erythromycin improves visibility
  • Decreases need for 2nd EGD

• PPI
  • Decreases need for endoscopic therapy in PUD
  • More effective than H2 blockers

• Octreotide for suspected cirrhotics
  • Increase Splanchnic vasoconstriction => Decreases Portal flow
    S/ 50 mcg bolus, 50 mcg/hr gtt

• Antibiotics in cirrhotics
  • Reduce 30-d mortality, infection, rebleeding

Surgical Options

• Splenectomy for gastric varices due to splenic vein thrombosis

• Ongoing bleeding despite any therapy modality with transfusion of >4-6 units/24Hrs or >10 units overall

• 2-3 recurrent bleeds from the same source
Summary

Approach to Acute Upper Gastrointestinal Bleeding:

- Triage and resuscitation.
- Correction of coagulopathy.
- Pharmacologic treatments:
  - PPI, Erythromycin, Octreotide, antibiotics
- Endoscopy (Diagnosis, Prognosis, Therapy).
- Post-endoscopy (PPI, antibiotics, medical management of portal HTN, anti-coagulation/aspirin management, etc).