

GASTROINTESTINAL EMERGENCIES

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GI Emergencies

- Bleeding
- Perforation
- Obstruction
- Abdominal pain
- Acute abdomen
- Foreign body
- Caustic ingestion
- Acute liver failure
- Decompensated chronic liver disease
- Trauma
- Infectious
- Iatrogenic complications
- Immunocompromised
- Pregnancy

Acute GI Bleeding: Overview

- Epidemiology
- Etiologies
- Clinical evaluation
- Management

Acute UGI Bleeding: Epidemiology

- Incidence - 100-200/100,000
- 300,000 hospital admissions annually
- Increase incidence with age
- More common in males (2:1)

Acute UGI Bleed: Outcome

- Bleeding stops spontaneously in 80%
- Mortality - 8%
 - Unchanged since 1950s
 - Aging population
 - Increasing comorbidities

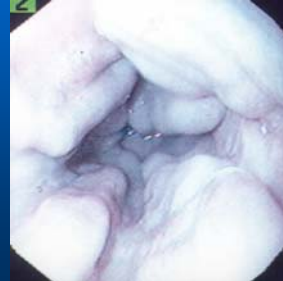
Acute UGI Bleed: Etiologies

- Peptic ulcer disease
- Erosive gastritis > duodenitis > esophagitis
- Varices
- Mallory-Weiss tear
- Tumors
- No cause found
- Rare causes - 10-12%**
 - AVMs
 - Dieulafoy's lesion
 - Watermelon stomach
 - Hemobilia
 - Aorto-enteric fistula
 - Kaposi's sarcoma
 - Infectious ulcers
 - CTD

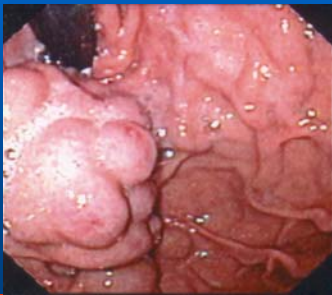
Large Gastric Ulcer



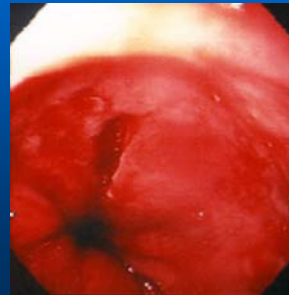
Esophageal Varices



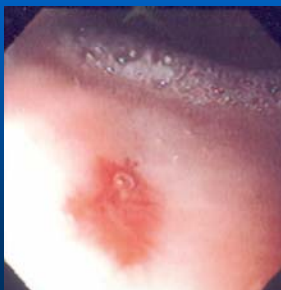
Huge Gastric Varix



Mallory-Weiss Tear



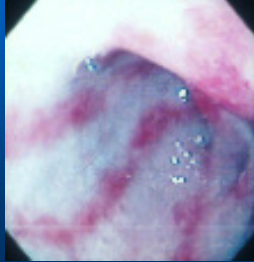
Gastric Angiectasia



Dieulafoy's Lesion



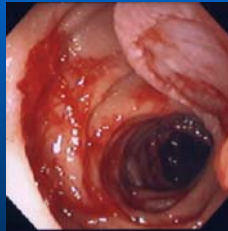
“Watermelon Stomach” Gastric Antral Vascular Ectasia (GAVE)



Gastric Leiomyoma (GIST)



Jejunal GIST



Acute UGI Bleed: Clinical Presentation

- Hematemesis
 - Requires at least 50 mL of blood > 14 hrs
- Melena
 - Requires > 1 L blood
 - Rare; usually associated with shock
- Hematochezia
 - Requires > 1 L blood
 - Rare; usually associated with shock
- Occult
 - Requires 3-5 mL of blood
- Abdominal pain, dysphagia, etc.
- Orthostasis, syncope, shock

Acute UGI Bleed: Assessment

- Vitals including orthostatic measurements
- Resuscitation - IVFs, PRBCs, correct coags, protect airway, etc.
- History
- Physical exam
- Labs including T & C (or T & S)
 - Hct - initial value may not reflect degree of blood loss
 - BUN - increase related to volume depletion and absorp. of proteins; Normal value doesn't r/o UGI cause
- Assess risk and assign level of care (ICU vs ward vs home)
- GI consultation for endoscopy

Acute UGI Bleed: Adverse Clinical Prognostic Factors

- Shock, red blood, failure of NG to clear
- Transfusion requirements
- Cause of bleeding (varices or cancer)
- Comorbid disease (10% increase mortality/comorbidity)
- Older age (> 60 yrs)
- Onset in hospital (33% vs 7% mortality)
- Recurrent bleeding (30% vs 8% mortality)

Acute UGI Bleed: Adverse Endoscopic Prognostic Factors

- Active bleeding (varices > ulcer)
- Nonbleeding visible vessel
- Large ulcer (> 1-2 cm)
- Location of ulcer (posterior bulb, lesser curve)

Acute UGI Bleed: Rockall Risk Score

	0	1	2	3
Age	< 60	60-79	>80	
Shock Pulse SBP	< 100 > 100	> 100 > 100	< 100	
Comorbidity	None		CAD, CHF	Renal/liver failure, met. cancer
Diagnosis	MW tear, no lesion seen, no SRH	All other	Malignant lesion	
EGD Stigmata	None or flat pigmented spot		Adherent clot, NBVV or active bleed	

Acute UGI Bleed: Role of NG Aspirate

- Prognosis
 - Mortality increased if failure to clear red blood
 - 10% active bleed (6% mortality) when clear
- Location of bleed
 - Clear (or bilious) aspirate is not predictive of site
 - beyond pylorus
 - not currently bleeding
 - Gastrocult test of no use
- Use controversial
 - May help to determine level of care and urgency of EGD

Acute UGI Bleed: Role of Endoscopy

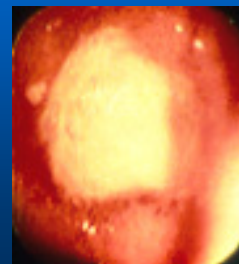
- Why?
 - Obtain diagnosis
 - Obtain prognostic information
 - Perform therapy
- When?
 - Determined by clinical status of the patient
 - Emergent - immediately after resuscitation
 - Urgent - within 12- 24 hrs of admit

Acute UGI Bleed: Endoscopy Ulcer Stigmata of Rebleeding Risk

- Clean base - most common; about 5% rebleed
- Flat spot - about 10% rebleed
- Adherent clot - about 15-20% rebleed
- Nonbleeding visible vessel (NBVV) - about 40%
- Active bleeding - about 80% continue to bleed

Greatest risk of rebleed - within 72 hrs of admit

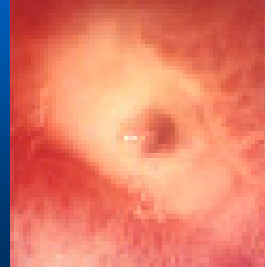
Clean-based Ulcer



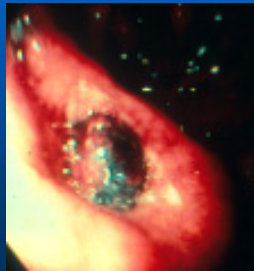
Flat Pigmented Spot



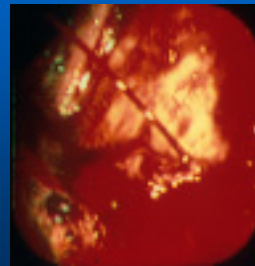
Nonbleeding Visible Vessel



Adherent Clot



Active Bleeding



Acute UGI Bleed: Endoscopic Treatments

- Injection
 - Dilute epinephrine
 - Hypertonic saline
 - Sclerosants (varices)
 - Glues (varices)
- Thermal
 - Heater probe
 - Bipolar electrocoagulation
- Mechanical
 - Hemoclips
 - Banding (varices)

Nonbleeding Visible Vessel Before Endoscopic Therapy



Nonbleeding Visible Vessel After Endoscopic Therapy



Acute UGI Bleed: Effect of Endoscopic Therapy on Rebleeding Rates

- About 20% rebleed following initial control
 - Routine second look not necessary in everyone
- Further endoscopic therapy successful in 50% of these
 - Increased risk of perforation
- Remainder require angiographic or surgical therapy
 - TIPS for variceal endoscopic failure times 2

Acute UGI Bleed: Medical Therapy

- Nasogastric lavage (ice water) - not useful
- Antacid (milk) infusion - not useful
- IV H₂ RAs
 - Not useful to stop acute bleed
- PPIs
 - Not useful to stop acute bleed
 - May be useful to prevent rebleed in high-risk lesions (omep 40 mg po BID or IV pantop 80 mg bolus then 8 mg/hr)
- Vasopressin
 - Useful for variceal bleeds; lots of side effects
- Octreotide
 - Useful for variceal and nonvariceal bleeds (50 mg bolus then 50 mg/hr for 72 hrs)
 - Well tolerated

UGI Bleed: Prevention of Recurrence

Depends upon the underlying cause

- Eradicate *H. pylori* (27% vs 0% rebleed rate)
- Avoid NSAIDS
 - Cox-2 selective agents, continue PPI (or H₂RA for DU) or misoprostol
- Maintain antisecretory therapy
- Surgery

UGI Bleed: Stress Bleeding Prophylaxis

- Risk Factors
 - Ventilator > 48 hrs
 - Coagulopathy
 - Extensive burns (> 30%)
 - Head trauma
- Treatment
 - Sucralfate slurry per NG
 - IV H₂RA
 - ? PPI - po vs IV (? Dose)

Acute UGI Bleed: Variceal Bleeding

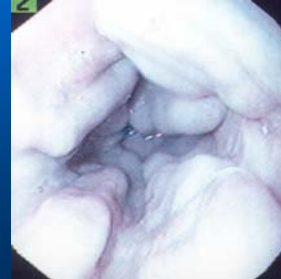
- 40 - 50% of acute UGI bleeds in those with known varices will be d/t PUD
- Identical initial management as PUD
 - More often in ICU
 - More attention needed to airway protection
 - More often emergent EGD
 - NG tube is OK
 - Begin Octreotide while awaiting endoscopy

Acute UGI Bleed: Variceal Bleeding

Endoscopic therapy - banding vs sclerotherapy

- Both control bleeding in > 85%
- Rebleed rate reduced to 30%
 - Repeat banding if rebleeds
 - TIPS +/- balloon tamponade if still bleeds
- Overall better outcome with banding
 - Less rebleeding
 - Lower mortality
 - Fewer complications
 - fewer treatment sessions needed to eradicate varices

Esophageal Varices



Banded Varices



Acute UGI Bleed: Outpatient Management

Requires both clinical and endoscopic criteria

- No high risk endoscopic findings
- No debilitation or serious comorbidity
- No orthostasis
- No hematemesis or melena on presentation
- No severe anemia (< 8 g/dl)
- No anticoagulation or coagulopathy
- Adequate support at home

Longstreth Lancet 1995

Acute UGI Bleed: Management Summary

- Resuscitate, determine risk and triage
 - High risk - ICU
 - Low risk - ward
- Urgent EGD for ICU patients
 - within 24 hrs for others
- If no SRH
 - Possible discharge on same day
- If flat spot or adherent clot
 - Ward for 3 days; immediate feeding; PO treatment
- If active bleed or NBVV
 - ICU for at least 1 day; IV PPI for 72 hrs; feed after 1 day

Acute LGI Bleed: Epidemiology

- Annual incidence - 20 to 27/100,00
- Increases with age
- More common in men

Acute LGI Bleed: Outcome of Massive Bleeds

- 60-70% continue to bleed after colonoscopy
 - No lesion or failed therapy
- Most stop spontaneously
- Some require surgery or angiographic therapy
 - Accurate presurgical localization improves outcome

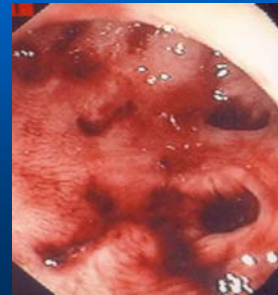
Acute LGI Bleed: Clinical Presentation

- Spectrum of severity
 - Most are mild requiring elective evaluation
 - Massive bleeding - relatively uncommon
- LGI bleed less likely than UGI bleed to present with shock or orthostasis
 - Less likely to require blood transfusion
- Most stop bleeding spontaneously (80-85%)

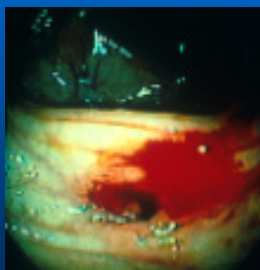
Acute LGI Bleed: Etiologies

- Diverticulosis - most common overall
- AVMs - rare but most common cause of massive bleeding
- Malignancy
- Ischemic colitis
- Infectious colitis
- Inflammatory bowel disease
- Hemorrhoids
- Post-polypectomy

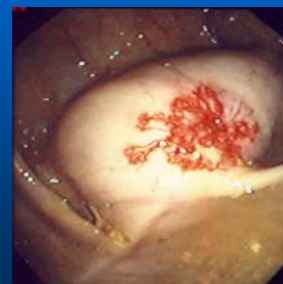
Diverticular Bleed



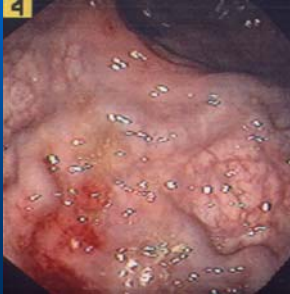
Bleeding Diverticulum



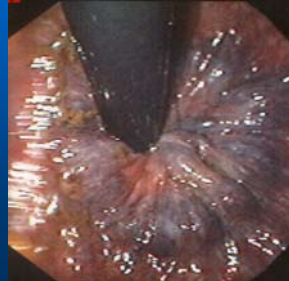
Cecal AVM



Rectal Varices



Internal Hemorrhoids



Ulcerative Colitis



Colon Cancer



Ischemic Colitis



Radiation Proctitis



Colonic Vasculitis (PAN)



CMV Colitis



Hemorrhagic E. Coli Colitis (O157:H7)



Acute LGI Bleed: Assessment

- Vitals including orthostatic measurements
- Resuscitation - IVFs, PRBCs, correct coags, protect airway, etc.
- History
- Physical exam
- Labs including T & C (or T & S)
 - Hct - initial value may not reflect degree of blood loss
- Assess risk and assign level of care (ICU vs ward vs home)
- GI consultation

Acute LGI Bleed: Diagnostic and Treatment Options

Diagnosis

- Anoscopy
- Sigmoidoscopy
- Colonoscopy
- Enteroscopy
- Intraop endoscopy
- SBS/enteroclysis
- Scintigraphy
 - RBC scan - 0.1ml/min
- Angiography-0.5 ml/min

Treatment

- Endoscopic
 - Injection
 - Thermal
 - Mechanical
- Angiographic
 - Vasopressin
 - Embolization
- Surgical

Acute LGI Bleed: Approach to Massive Bleeding

- Resuscitation
- NG aspirate - more useful with massive bleeds
- Upper endoscopy
- Oral purge
- Urgent colonoscopy
 - Endoscopic therapy if lesion found
 - Surgery (or angio) if bleeding continues
- Scintigraphy, angiography, enteroscopy or intraoperative endoscopy if no lesion found