

CASE: The patient is a 58 yo woman with no significant past medical history who presented to the ED c/o 3 days of dizziness and two days of bright red blood per rectum and loose stool. She occasionally takes ibuprofen for "aches and pains" but o/w is on no medications. VS: 98/50; HR 103 supine; 80/48; HR 124 standing. Abdomen is soft with bowel tones present and minimal tenderness to palpation in LLQ. Pt oriented to self and hospital. Hct 24. (unknown baseline).

What steps are involved in your initial management? Does this patient have an upper or lower GI bleed? What is the most likely etiology of her bleeding? What is her prognosis? How should this patient be managed initially? Should you place a nasogastric tube? When should you contact the Surgeons? The Interventional Radiologists?

Acute Lower Gastrointestinal Bleed (LGIB)

*Anneliese Schleyer MD, MHA
Harborview Medical Center*

Bleeding from source distal to Ligament of Treitz <3 days

Epidemiology

21/100,000 per year in US - up to 20% of major GIB admitted; incidence increases with age: 200-fold increase from 3rd to 9th decades

Clinical findings

Symptoms: Hematochezia is most common symptom. Bleeding from left colon is usually bright red; bleeding from right colon more likely to be maroon. Melena suggests upper GI source, including small intestine; but may indicate R colonic bleed

Causes: Diverticulosis/diverticulitis 30-50% (incidence increases with age), neoplasm/polyp (13-19%), angiodysplasia (AVMs) 10% (most frequent in >65), colitis (ischemic, infectious) 15%, anorectal (hemorrhoids, fissures) 11%, upper GI source 10-12%; other 6%; no source identified 8%

Initial Management

- 1) **Aggressive fluid resuscitation!**
Obtain immediate ACCESS! Place two large caliber (>18 gauge) peripheral IVs or a cordis; PICC lines and triple lumen catheters are too long and narrow in caliber to aggressively fluid resuscitate a patient.
- 2) Severity assessment
- 3) Nasogastric lavage - may help to exclude upper GI source of bleed (not studied prospectively)
- 4) Nothing by mouth
- 5) EKG/telemetry monitoring for any high risk patient, including those with EKG changes or chest pain.
Increased HR can be an early sign of re-bleeding.
- 6) Colonoscopy once stabilized

Severity assessment: High risk features include SBP <100, HR>100, syncope, a non-tender abdomen, active bleeding during the initial four hours of evaluation, recent aspirin use, and 3 or more comorbidities. Frank clots per rectum also suggestive of higher risk bleed. Patients requiring >>4 units packed red cell transfusion or who become transfusion dependent also potentially high risk.

Who should go to the ICU? Patients with hemodynamic instability (orthostasis, shock, near-syncope) or requiring > 2 units of prbcs should be considered for ICU. The elderly, those with known heart disease (failure or valvular disease), cirrhosis, those with potential for respiratory compromise (altered mental

status, difficulty tolerating volume) or requiring massive resuscitation and stabilization should be considered for admission to ICU.

Transfusion goals: In actively bleeding patients, correct to INR < 1.5 and platelets > 50,000. Goal hematocrit depends on patient's age, co-morbidities, and amount and severity of bleeding. Aim for >30 if patient has a history of CAD; evidence for a specific transfusion goal is still ambiguous in most other populations.

Nasogastric Lavage/Aspirate: Blood or coffee grounds via nasogastric aspirate suggests bleeding proximal to the ligament of Treitz and may help exclude an upper GI source

Medications: Stop aspirin, NSAIDs, clopidogrel or warfarin in all patients with active LGI bleeding.

Diagnostic Studies and Therapeutic Interventions

Colonoscopy: Urgent colonoscopy is the diagnostic and/or therapeutic standard of therapy, though no controlled trials have examined this issue. Can potentially treat diverticular bleed, angiodysplasia, hemorrhoids. Diagnostic yield 48-90% in studies. Early colonoscopy may shorten hospital stay.

If massive bleeding not amenable to endoscopic therapy, surgical intervention or immediate angiography may be indicated.

Perform rapid bowel preparation with Polyethylene glycol-based (Go-lytely) solutions administered orally or by NG tube 1 Liter every 30-45 minutes (or 4 Liters over 3-4 hours if non-emergent/overnight). Golytely may cause rapid potassium shifts; monitor K+. Preparation 1) facilitates visualization, 2) improves diagnostic yield, 3) may improve safety.

Angiography/IR: Useful in active, ongoing bleeding and when colonoscopy non-diagnostic. Limited role if chronic or intermittent bleeding. Poor for demonstrating venous bleeds. Requires bleeds of >1 mL/minute at instant of contrast injection. No bowel preparation needed. Positive angiography increases likelihood that surgery will be needed. Not a good option for patients with renal insufficiency because of IV contrast load. Sensitivity ~47%/specificity up to 100%. Initial hemorrhage control 60-100%.

Tagged RBC Scan: More sensitive than angiography but less specific. Useful for intermittent bleeds; can identify bleeds of one unit every three to four hours (0.1-0.5 mL/minute). Up to 78% accuracy for bleeding site localization. No randomized controlled studies of angiography or tagged RBC scans in LGIB management.

If bleeding is not identified by the above means, consider upper endoscopy with push enteroscopy, enterocolonoscopy, or capsule endoscopy to evaluate small bowel.

Surgical Consultation

Consult Surgery in persistent LGIB. Those with massive bleeding (>4 units prbcs) or with transfusion-dependence or patients with recurrent bleeding within 24 hours of initial stabilization should be seen urgently. Intraoperative enteroscopy to localize bleeding site, followed by resection of involved bowel, may be appropriate in persistent bleeding with unclear source. Surgical resection should be also considered for patients with persistent LGIB if a bleeding site has been identified by colonoscopy, angiography or tagged RBC scan. Pre-operative localization of bleeding site is critical.

Prognosis

Most episodes (~80%) of LGIB will stop spontaneously, and will not recur. Mortality rate ~4%.

Discharge Criteria

Patients can usually be discharged if there has been no rebleeding after observation (~24 hours for minor bleeding, ~48-72 hours for major bleeding requiring transfusion)

Case Follow-Up

Pt initially admitted to ICU; volume resuscitated and stabilized. Transfused 2 units of prbcs with appropriate response.

Patient underwent colonoscopy after bowel preparation with no source of active bleeding identified. She was noted to have diffuse diverticular disease. On the following day she underwent tagged rbc that did not show evidence of active bleeding. The patient remained hemodynamically stable and her Hct remained 31 on repeat check. She had some ongoing dark stool but no recurrence of hematochezia and she was able to tolerate oral intake. Her mental status returned to normal. She was discharged from the hospital after 48 hours and has had no recurrence of her bleed.

Clinical Pearls

- Bleeding from left colon is often bright red; bleeding from right colon or upper GI source is more likely to be maroon.
- Place NG tube to help rule-out upper GI source of bleeding
- Positive angiography suggests serious bleeding and identifies those likely to need surgery

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Last updated: July 31 2006, AS

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