JAMA Clinical Guidelines Synopsis

Management of Patients With Acute Lower Gastrointestinal Tract Bleeding

Neil Sengupta, MD; Adam S. Cifu, MD

GUIDELINE TITLE ACG Clinical Guideline: Management of Patients With Acute Lower Gastrointestinal Bleeding

RELEASE DATE March 1, 2016

FUNDING SOURCE American College of Gastroenterology (ACG), National Institutes of Health

TARGET POPULATION Adult patients hospitalized with acute lower gastrointestinal (GI) tract bleeding

MAJOR RECOMMENDATIONS

- For patients with hematochezia associated with hemodynamic instability, an initial upper endoscopy should be performed. A nasogastric aspirate/lavage may be used to assess a possible upper GI tract source if suspicion of upper GI tract bleeding is moderate (strong recommendation; weak evidence).
- In the absence of hemodynamic instability, colonoscopy should be the initial diagnostic procedure for nearly all patients presenting with acute lower GI tract bleeding (strong recommendation; weak evidence).
- Anticoagulation reversal agents should be considered before endoscopy in patients with an international normalized ratio (INR) greater than 2.5. Endoscopic treatment may be considered in patients with an INR of 1.5 to 2.5 before or concomitant with administration of reversal agents (conditional recommendation; very weak evidence).
- In patients with markers of hemodynamic instability at presentation, significant comorbid disease, anemia, and signs or symptoms of ongoing bleeding, a rapid bowel preparation should be initiated following hemodynamic resuscitation and a colonoscopy performed within 24 hours (conditional recommendation; weak evidence).
- Radiographic interventions (tagged red blood cell scintigraphy, computed tomographic angiography, and angiography) should be considered in high-risk patients with ongoing bleeding who do not respond adequately to resuscitation and who are unlikely to tolerate bowel preparation and colonoscopy (strong recommendation; very weak evidence).
- To prevent recurrent bleeding, nonaspirin nonsteroidal anti-inflammatory drugs (NSAIDs) should be avoided, particularly if bleeding is secondary to diverticulosis or angioectasias. In patients with established high-risk cardiovascular disease, aspirin for secondary prevention should not be discontinued (strong recommendation; weak evidence).

Summary of the Clinical Problem

Acute lower GI tract bleeding is a common reason for hospitalization, with an estimated annual incidence of 20 to 35 per 100 000 persons.[1] Although lower GI tract bleeding typically implies a bleeding source originating from the colon or rectum, up to 15% of patients with presumed lower GI tract bleeding may have an upper GI tract bleeding source.[2] Although colonoscopy is commonly used as a diagnostic test and potentially therapeutic procedure, it is unclear whether early use of colonoscopy is associated with improved clinical outcomes.[3]

Characteristics of the Guideline Source

This guideline was developed and funded by the ACG, which commissioned 2 board-certified experts in clinical gastroenterology with expertise in management of lower GI tract bleeding (**Table**).[4] The 2 experts disclosed conflicts of interest. Clinical experts chosen by the ACG performed external review of the guideline prior to publication.

Evidence Base

For patients with symptoms of lower GI tract bleeding and hemodynamic instability (tachycardia, hypotension, and syncope), the guideline strongly recommends exclusion of an upper GI tract source of bleeding based on data from a prior randomized trial demonstrating that up to 15% of patients with severe hematochezia ultimately had upper GI tract bleeding.[2] Prior evidence-based guidelines support use of upper endoscopy for diagnosis and endoscopic therapy of patients with upper GI tract bleeding.[5]

Despite low-quality evidence supporting clinical benefit of colonoscopy in lower GI tract bleeding, the authors provide a strong recommendation for colonoscopy in this population, given the high

Table. Guideline Rating

Standard	Rating
Establishing transparency	Fair
Management of conflict of interest in the guideline development group	Fair
Guideline development group composition	Poor
Clinical practice guideline–systematic review intersection	Fair
Establishing evidence foundations and rating strength for each of the guideline recommendations	Poor
Articulation of recommendations	Good
External review	Fair
Updating	Poor
Implementation issues	Good

diagnostic yield in detecting sources of bleeding such as diverticulosis, angioectasias, and colorectal neoplasia. The guideline also recommends that colonoscopy should be performed only after adequate resuscitation and a complete bowel preparation and conditionally recommends early colonoscopy (within 24 hours) for patients with high-risk clinical features or ongoing bleeding.

The evidence base regarding management of coagulopathy in patients with lower GI tract bleeding was of very low quality. The guideline conditionally recommends that anticoagulation reversal agents be considered in patients with an INR greater than 2.5 prior to endoscopy, along with platelet transfusions to maintain a platelet count of 50×10^9/L. The guideline suggests that endoscopic treatment may be considered in patients with an INR of 1.5 to 2.5 before or concomitant with administration of reversal agents.

Although the evidence base for noncolonoscopy interventions was deemed very low quality, the guideline strongly recommends radiographic interventions in patients with persistent hemodynamic instability with inadequate response to resuscitation and ongoing bleeding after exclusion of an upper GI tract bleeding source. This recommendation was made based on the assumption that these patients are unlikely to tolerate bowel preparation and colonoscopy. Computed tomographic angiography is recommended to localize the source of bleeding prior to therapeutic angiography. Surgical therapy is recommended only when other therapeutic options have failed and after careful localization of the bleeding source.

Although the evidence quality is low, the guideline strongly recommends against discontinuing aspirin in patients with established high-risk cardiovascular disease. The authors extrapolated data from a randomized trial of upper GI tract bleeding demonstrating an increase in recurrent bleeding but a mortality benefit when resuming aspirin.[6] NSAIDs should be avoided if possible, particularly in patients with diverticulosis or angioectasias as the bleeding source. A multidisciplinary approach is also strongly recommended to discuss the risks and benefits of resumption of dual antiplatelet therapy or thienopyridine agents following lower GI tract bleeding.

Benefits and Harms

Colonoscopy in patients with lower GI tract bleeding can localize and diagnose the source of bleeding and enable endoscopic intervention. In general, colonoscopy with endoscopic hemostasis in lower GI tract bleeding is considered safe, with reported adverse event rates ranging from 0.3% to 1.3%.[4] Less direct harms of colonoscopy, which are considered in this guideline, include inadequate resuscitation prior to the procedure as well as limited utility and yield of the colonoscopy due to factors such as inadequate bowel preparation and variable technical ability and performance of endoscopic hemostasis.

Discussion

This ACG clinical guideline provides an evidence-based framework for managing patients hospitalized with lower GI tract bleeding, with specific discussions on initial assessment and resuscitation, diagnostic testing, role of colonoscopy along with radiographic interventions, and prevention of recurrent bleeding. Due to the lack of high-quality studies, including randomized trials, of lower GI tract bleeding, the quality of evidence supporting most of the guideline statements is low to very low. Despite this, the guideline strongly recommends performance of colonoscopy in most patients with acute lower GI tract bleeding after adequate resuscitation and bowel preparation. Colonoscopy within 24 hours of presentation is recommended for patients with ongoing bleeding and high-risk features (initial hemodynamic instability responsive to transfusion, significant medical comorbidities, anemia); however, recent data have demonstrated that this strategy is not necessarily associated with improved clinical outcomes such as rebleeding or mortality.[7]

Areas in Need of Future Study or Ongoing Research

Given the lack of high-quality data supporting early colonoscopy in lower GI tract bleeding, further studies are needed to clarify the optimal timing for performance of colonoscopy. Although risk prediction tools are widely used in patients with upper GI tract bleeding, further studies are needed to validate the few existing clinical prediction tools in lower GI tract bleeding so clinicians can accurately stratify patients into low- and high-risk groups to allow for optimal resource utilization. Finally, given the increasing use of direct oral anticoagulants, further data are needed on the optimal resuscitation strategy and role of reversal agents for patients with direct oral anticoagulant–associated lower GI tract bleeding.

Related guidelines and other resources

American Society for Gastrointestinal Endoscopy (2014)

ARTICLE INFORMATION

Author Affiliations: Section of Gastroenterology, Hepatology, and Nutrition, University of Chicago, Chicago, Illinois (Sengupta); Section of General Internal Medicine, University of Chicago, Chicago, Illinois (Cifu).

Corresponding Author: Neil Sengupta, MD, Section of Gastroenterology, Hepatology, and Nutrition, University of Chicago Medical Center, 5841 S Maryland Ave, MC 4076, Chicago, IL 60637 (nsengupta@medicine.bsd.uchicago.edu).

Conflict of Interest Disclosures: The authors have completed and submitted the ICMJE Form for Disclosure of Potential Conflicts of Interest and none were reported.

REFERENCES

1. Laine L, Yang H, Chang SC, Datto C. Trends for incidence of hospitalization and death due to GI complications in the United States from 2001 to 2009. *Am J Gastroenterol*. 2012;107(8):1190-1195.

2. Laine L, Shah A. Randomized trial of urgent vs elective colonoscopy in patients hospitalized with lower GI bleeding. *Am J Gastroenterol*. 2010;105(12):2636-2641.

3. Kouanda AM, Somsouk M, Sewell JL, Day LW. Urgent colonoscopy in patients with lower GI bleeding. *Gastrointest Endosc*. 2017;86(1):107-117.

4. Strate LL, Gralnek IM. ACG clinical guideline: management of patients with acute lower gastrointestinal bleeding. *Am J Gastroenterol*. 2016;111(4):459-474.

5. Laine L, Jensen DM. Management of patients with ulcer bleeding. *Am J Gastroenterol*. 2012;107(3):345-360.

6. Sung JJ, Lau JY, Ching JY, et al. Continuation of low-dose aspirin therapy in peptic ulcer bleeding. *Ann Intern Med*. 2010;152(1):1-9.

7. Nagata N, Niikura R, Sakurai T, et al. Safety and effectiveness of early colonoscopy in management of acute lower gastrointestinal bleeding on the basis of propensity score matching analysis. *Clin Gastroenterol Hepatol*. 2016;14(4):558-564.