

Clinical Guideline Highlights for the Hospitalist: Management of Upper Gastrointestinal and Ulcer Bleeding

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GUIDELINE TITLE: American College of Gastroenterology: Upper Gastrointestinal and Ulcer Bleeding

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TARGET POPULATION: Adult patients with overt upper gastrointestinal bleeding

Upper gastrointestinal bleeding (UGIB) is defined as a bleed originating from the esophagus, stomach, or duodenum. Approximately 80% of patients with UGIB presenting to the emergency department are admitted to the hospital, accounting for more than 200,000 hospital admissions and 4000 in-hospital deaths per year.¹ In this article, we highlight 9 of the 16 recommendations from the 2021 American College of Gastroenterology (ACG) guidelines that are most pertinent to the hospitalist, presented in sections corresponding to the stages of inpatient clinical management.

KEY RECOMMENDATIONS FOR THE HOSPITALIST

Initial Triage

Recommendation 1. Patients with UGIB presenting to the emergency department who are classified as very low risk, defined as a risk assessment score with $\leq 1\%$ false-negative rate for the outcome of hospital-based intervention or death (ie, Glasgow-Blatchford score of 0-1), should be discharged with outpatient follow-up rather than admitted to the hospital (conditional recommendation, very-low-quality evidence). The Glasgow-Blatchford score is an effective risk-assessment tool that can classify patients at high risk for death or needing a hospital-based intervention (eg, endoscopy or blood transfusion) with a sensitivity of 99%.² Triage decisions should incorporate other patient factors, such as age, comorbidities, and reliability of close follow-up after discharge.

Pre-endoscopy Management

Recommendation 2. A restrictive threshold for red blood cell transfusion of 7 g/dL is recommended for patients with UGIB (conditional recommendation, low-quality evidence) as it appears to reduce death and further bleeding.³ It is reasonable

to transfuse patients with preexisting cardiovascular disease whose hemoglobin is below 8 g/dL. For patients who are exsanguinating with hemodynamic instability, it is reasonable to transfuse before the hemoglobin reaches 7 g/dL.

Recommendation 3. An infusion of erythromycin is recommended before endoscopy in patients with UGIB (conditional recommendation, very-low-quality evidence). Erythromycin (250 mg intravenously [IV]) improves endoscopic visualization and diagnostic accuracy by moving the blood and clot out of the upper GI tract. A meta-analysis showed a reduction of need for repeat endoscopy (odds ratio [OR], 0.51; 95% CI, 0.34-0.77) and length of hospitalization (mean difference, -1.75 d).⁴

Recommendation 4. There is no consensus for or against pre-endoscopic proton pump inhibitor (PPI) therapy for patients with UGIB, owing to overall limited available data.

Recommendation 5. Patients hospitalized for UGIB should undergo endoscopy within 24 hours of presentation (conditional recommendation, very-low-quality evidence). Performing endoscopy within 24 hours, rather than 12 hours, of presentation demonstrated a potential trend toward decreased length of stay, mortality, and need for surgery. The potential harm in performing earlier endoscopy was attributed to inadequate resuscitation and insufficient optimization of active comorbidities.

Post-endoscopy Management

Recommendation 6. High-dose PPI therapy should be given for 3 days after successful endoscopic hemostatic therapy of a bleeding ulcer (strong recommendation, moderate- to high-quality evidence). When compared with placebo, there is an absolute risk reduction of 3% in mortality and 10% in further bleeding when administering continuous (80 mg bolus with 8 mg/h infusion) or intermittent high-dose PPI therapy (80 mg bolus with 40 mg 2-4 times daily thereafter) for 3 days after endoscopic therapy.^{6,7} Cost and ease of administration should be considered when choosing between intermittent or continuous PPI therapy. Oral PPI therapy may be appropriate for patients who are able to tolerate oral intake (no nausea, vomiting, dysphagia, or somnolence).

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Recommendation 7. High-risk patients (defined as a Rockall score of ≥ 6) with UGIB due to ulcers who received endoscopic hemostatic therapy followed by short-term high-dose PPI therapy in hospital should be continued on twice-daily PPI therapy until 2 weeks after index endoscopy (conditional recommendation, low-quality evidence). A randomized controlled trial of high-risk patients showed significantly lower recurrence of bleeding with twice-daily vs once daily PPI.⁸ It remains uncertain whether patients benefit from PPI therapy beyond 4 weeks.

Rebleeding Management

Recommendation 8. Patients with recurrent bleeding after endoscopic therapy for a bleeding ulcer should undergo repeat endoscopic therapy rather than surgery or transcatheter arterial embolization (TAE) (conditional recommendation, low-quality evidence for comparison with surgery, very-low-quality evidence for comparison with TAE). In a small randomized controlled trial of repeat endoscopy vs surgery in patients with rebleeding after initial successful endoscopic treatment, there were more subsequent bleeding episodes in the repeat endoscopy group, but no significant difference in mortality and length of stay.⁹ The repeat endoscopy group had fewer complications, though, and a successful treatment rate of 75%. Because of the lack of high-quality studies in support of TAE and the known safety and efficacy of repeat endoscopy, repeat endoscopy is preferred over TAE for recurrent UGIB.

Recommendation 9. Patients with bleeding ulcers who have failed repeat endoscopic therapy should be treated with TAE (conditional recommendation, very-low-quality evidence). Based on a meta-analysis, when comparing TAE with surgery in patients with UGIB who fail endoscopic therapy, overall mortality was the same, and TAE patients had fewer complications and shorter hospital stays despite having a higher risk of further bleeding.¹⁰

CRITIQUE

The guidelines were formulated by panel members with input from the ACG Practice Parameters Committee using the population, intervention, comparator, and outcome (PICO) format to frame each question. The Grading of Recommendations Assessment, Development, and Evaluation (GRADE) approach was used to assess the strength of the recommendation and the quality of evidence.

Most of the recommendations are conditional and/or based on low-quality or very-low-quality evidence. Although randomized control trials were sought, observational studies were sometimes included when randomized controlled trials were lacking. The literature review process appeared to focus on the primary outcome of further bleeding, which, although critical in patients with UGIB, could have limited the scope of evidence used in making the recommendations. It was stated that studies identified as relevant to the panel members or authors were considered for review without mentioning any standardized approach. The composition of the panel members was not discussed, and it is uncertain whether the guide-

lines underwent any formal peer-review process. Furthermore, although competing interests were declared, the panel did not discuss how conflicts were managed and what potential impact they had in the guideline recommendations. Finally, some of the recommendations (eg, TAE) will depend on local expertise and may not be available at all medical centers.

AREAS IN NEED OF FUTURE STUDY

Further study is needed to address the integration of risk-assessment tools into electronic health records to assist with timely decisions on managing patients with acute UGIB, to clarify the role for pre-endoscopic PPI therapy, and to specify fluid resuscitation and blood pressure goals in patients with more severe bleeding episodes and determine whether a subset of patients might benefit from very-early endoscopy (the 2012 ACG guidelines suggested that endoscopy within 12 hours may be considered in patients with high-risk clinical features such as hemodynamic instability or cirrhosis).

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Other Resources

Glasgow-Blatchford Score (<https://www.mdcalc.com/glasgow-blatchford-bleeding-score-gbs>)

Rockall Score (<https://www.mdcalc.com/rockall-score-upper-gi-bleeding-pre-endoscopy>)

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