Lower Gastrointestinal Hemorrhage

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KEYWORDS

• Lower gastrointestinal bleeding • Colonoscopy • Diverticulosis • Angiography

KEY POINTS

- Lower gastrointestinal bleeding (LGIB) is a frequent cause of hospitalization and admission to the intensive care unit (ICU) especially in the elderly patient.
- Approximately 11% of LGIB are secondary to brisk upper GI bleeding. Lower GI bleeds are usually less severe in nature than upper GI bleeds.
- Colonoscopy remains the most common modality for evaluating LGIB. Colonoscopy can be both diagnostic and therapeutic. The optimal timing of colonoscopy in a patient who presents with LGIB is controversial.
- Radionuclide studies, angiographic therapy and surgery are other localization and treatment options for LGIB where colonoscopy fails.
- Small bowel bleeds now considered a separate entity, usually present with hematochezia and are classified as obscure causes of LGIB. Angiodysplasias are the most common cause of small bowel or obscure bleeds. Wireless capsule endoscopy, push enteroscopy and deep enteroscopy are methods to evaluate the small bowel for bleeding.

Lower gastrointestinal bleeding (LGIB) is a frequent reason for hospitalization especially in the elderly. Patients with LGIB are frequently admitted to the intensive care unit and may require transfusion of packed red blood cells (PRBC) and other blood products especially in the setting of coagulopathy. Colonoscopy is often performed to localize the source of bleeding and sometimes provision of therapeutic measures, such as argon plasma coagulation. LGIB may present as an acute life-threatening event or as a chronic insidious condition manifesting as iron deficiency anemia and positivity for fecal occult blood. This article discusses the presentation, diagnosis, and management of LGIB with a focus on conditions that present with acute blood loss.

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DEFINITION

LGIB has traditionally been defined as that occurring beyond the ligament of Treitz.[1] Since the advent of capsule endoscopy and demonstration that small bowel bleeds are a separate clinical entity,[2] some authors define LGIB as blood loss from the colon and/or anorectum. LGIB may be acute or chronic, with acute typically denoting blood loss of recent duration (arbitrary value of <3 days) and chronic signaling blood loss over a longer duration, typically days to weeks. Acute LGIB is usually overt presenting with hematochezia or melena and may result in hemodynamic instability. Conversely, chronic LGIB is usually occult presenting as iron deficiency anemia and/or positive fecal occult blood testing.

EPIDEMIOLOGY

Investigations pertaining to the epidemiology of LGIB are infrequent. Moreover, definitions and criteria of inclusion differ among studies leading to variable results. Nevertheless, LGIB represents approximately 20% to 25% of all cases with gastrointestinal (GI) bleeds.[3] This number is likely an underestimation because unlike upper GI bleeds (UGIB), many patients with milder forms of LGIB either do not present to the hospital or are not admitted. The annual incidence is estimated to be between 20 and 27 cases per 100,000 population.[4,5] The incidence increases with advancing age with a greater than 200-fold increase between the ages of 20 and 80.[4] LGIB also occurs more commonly in men than in women.[4] The increasing incidence with age is likely secondary to the increasing prevalence of diverticulosis and angiodysplasia with age, both common causes of LGIB. The associated mortality ranges from 2% to 4%[6] but may be significantly higher in elderly patients presenting with hemodynamic instability. One French prospective study identified 1333 patients with LGIB. In this study the mean age was 72 years and a predisposing medicine contributing to the LGIB was found in 75% of patients (antiplatelet agents, anti–vitamin K agents, nonsteroidal anti-inflammatory drugs [NSAIDs], and heparin).[7]

CRITERIA FOR SEVERITY AND RISK STRATIFICATION

LGIB is usually slower and less severe than UGIB.[8] In more than 80% of cases there is spontaneous cessation of hemorrhage.[9] Although there is an absence of consensus about definitions of severity, clinicians assess severity based on hemodynamic status, laboratory findings, and associated comorbid conditions. Unlike UGIB, risk stratification for LGIB is not well defined. Velayos and colleagues[10] identified hemodynamic instability (systolic blood pressure <100 mm Hg, heart rate >100 per minute) 1 hour after initial evaluation, active gross bleeding per rectum, and an initial hematocrit of less than 35% as predictors of increased severity and poor outcomes from LGIB (79% of patients with three risk factors had recurrent or ongoing bleeding compared with 54% with two risk factors, 17% with one risk factor, and 0% with no risk factors). In another study, Strate and colleagues[11] identified heart rate greater than 100, systolic blood pressure less than 115 m Hg, syncope, nontender abdominal examination, bleeding per rectum during the first 4 hours of evaluation, history of aspirin use, and more than two active comorbid conditions as risk factors predictive of a severe course or recurrence of LGIB (patients with four or more risk factors were in the highest risk group). Das and colleagues[12] developed and externally validated an artificial neural network to predict the risk of death, rebleeding, and need for intervention in LGIB. This tool accurately predicted these outcomes and had a negative predictive value of 98% in the internal and external validation cohorts suggesting