Use of endoscopy in diarrheal illnesses

Guidelines for the practice of endoscopy are developed by the American Society for Gastrointestinal Endoscopy using evidence-based methodologies. A literature search is performed to identify relevant studies on the topic. Each study is then reviewed for both methodology and results. Controlled clinical trials are emphasized, but information is also obtained from other study designs and clinical reports. In the absence of data, expert opinion is considered. When appropriate, the guidelines are submitted to other professional organizations for review and endorsement. As new information becomes available revision of these guidelines may be necessary.

These guidelines are intended to apply equally to all who perform gastrointestinal endoscopic procedures, regardless of specialty or location of service. Practice guidelines are meant to address general issues of endoscopic practice. By their nature, they cannot encompass all clinical situations. Clinical situations may justify a course of action at variance to these recommendations.

Diarrheal illnesses can be associated with significant morbidity and mortality, especially in high-risk populations such as the very young and the elderly. There is a broad differential diagnosis and are numerous diagnostic tests that may be utilized to discern underlying pathology. Endoscopic evaluation with mucosal assessment and biopsy may be particularly helpful in the diagnosis of diarrhea. Diarrhea is now generally defined as a stool mass exceeding the normal adult average of 200 g/24 h. However, stool consistency and frequency may also determine whether a patient complains of these symptoms. There also remains a lack of consensus on the differentiation of acute versus chronic diarrhea. Most clinical studies utilize 3 to 4 weeks as a cut-point to differentiate acute from chronic diarrhea.

**LOWER ENDOSCOPY**

Lower endoscopy has been established as an essential procedure in the evaluation and management of colonic disease. Lower endoscopy is generally indicated if a change in management is likely to be based on the results of the procedure, or if a specific therapeutic procedure is planned.

Most diarrhea is caused by an acute self-limited infection. These infectious diarrheas are exceedingly common, short-lived, and rarely require specific therapy. They are not, therefore, an indication for endoscopy-colonoscopy.

Diarrhea, however, may be associated with symptoms or signs that suggest an etiology that requires an accurate diagnosis and specific therapy. The presence of rectal bleeding, severe abdominal pain, fever, leukocytosis, and negative stool tests for pathogens justifies a diagnostic evaluation. Lower endoscopic evaluation, such as unprepped sigmoidoscopy, may allow rapid determination of active *Clostridium difficile* infection.

Lower endoscopy is of value in the patient with unexplained chronic diarrhea, defined as diarrhea lasting more than 3 weeks. Chronic diarrhea falls into 3 categories: osmotic diarrhea, deranged electrolyte transport diarrhea, and enterocyte damage and death with inflammation; these correspond to malabsorptive, secretory, and inflammatory diarrheas. Such a categorization may direct the physician to certain diagnostic pathways. However, a significant overlap between the 3 mechanisms is always possible. In addition to the traditional workup of diarrheal states, endoscopic procedures can play a pivotal role in the evaluation of patients with chronic, unexplained diarrhea.

Evaluation of the colonic mucosa and biopsy are helpful in ruling out inflammatory bowel disease, ischemic colitis, collagenous and microscopic colitis, and neoplastic disease.

Consensus is lacking on whether colonoscopy or flexible sigmoidoscopy should be the initial endoscopic test in patients with chronic diarrhea. The advantage of the latter is that there is no need for sedation, it requires simpler preparation, and it is a shorter procedure that has less risk and costs. However, colonoscopy allows evaluation of the proximal colon and terminal ileum. In patients with suspected inflammatory bowel disease, malignancy, and/or gross/occult bleeding, colonoscopy may be preferable. Most pathologic processes other than those just mentioned tend to be diffuse and should be diagnosed on flexible sigmoidoscopy alone. However, up to 10% of microscopic/collagenous colitis may only involve the right colon. A more recent study found that 57 of 58 patients with microscopic colitis would have been diagnosed by flexible sig-
moidoscopy alone. However, if a flexible sigmoidoscopy is nondiagnostic and symptoms persist, colonoscopy should be performed. There has yet to be a prospective randomized study of the utility of colonoscopy versus flexible sigmoidoscopy for chronic diarrhea evaluation. Clinical decision-making should be individualized.

The evaluation of patients with compromised immunity and diarrhea should be considered separately.

Patients with HIV and diarrhea require stool testing for pathogens. Lower endoscopy with biopsy is generally indicated if the diarrheal illness is problematic and initial/basic stool tests fail to reveal the etiology of their diarrhea. A recent study showed that flexible sigmoidoscopy (rather than colonoscopy) with biopsy is the appropriate test when stool studies are negative in individuals with CD4 counts less than 100 cells/mm³. Upper endoscopy may also be considered if diarrhea persists despite what appears to be appropriate therapy. In patients with HIV and weight loss, a pathogen is identified by endoscopy in 30% to 45% of patients with HIV who have diarrhea and negative stool studies.

Graft-versus-host disease (GVHD) after bone marrow transplantation can be diagnosed by endoscopic biopsy in up to 80% of patients with GI symptoms (anorexia, nausea, vomiting, early satiety, abdominal pain, and/or diarrhea). The differential diagnosis includes toxicity from chemotherapy regimens and medication side effects, and viral, bacterial, and fungal enteric infections. Mucosal biopsies are the “gold standard” to establish GVHD and to distinguish it from other commonly encountered infections and pathologies. Upper endoscopy with gastric and small bowel biopsies is the procedure of choice because endoscopic appearance of the mucosa alone is not sufficient to establish (or exclude) a diagnosis; positive biopsy specimens may be found in patients with a normal endoscopic appearance. Colonic and rectal biopsies can be performed, but are less sensitive (55% vs. 90%) than gastric/small bowel biopsies.

Upper endoscopy (EGD and enteroscopy)

Although most individuals initially focus on large bowel abnormalities in the evaluation of patients with diarrheal illnesses, upper endoscopy may play a role in the workup of these patients. Acute diarrheal illnesses are generally caused by infections involving the lower GI tract. Use of upper endoscopy in these self-limited disorders is therefore not indicated.

Patients with chronic diarrhea initially should undergo evaluation of the lower GI tract via colonoscopy. In the absence of significant findings suggesting the cause of diarrhea, an upper GI evaluation may ensue. The differential diagnoses for diarrheal illnesses involving the upper GI tract include infections such as Giardia and bacterial overgrowth or small bowel diseases and pancreatic diseases resulting in malabsorption. Giardia, a parasitic infection, colonizes the duodenal mucosa resulting in symptoms that may mimic peptic ulcer disease. In patients at high risk for Giardia, an upper endoscopy with biopsy and aspirate for smear can establish the diagnosis. An aspirate of small intestinal contents may be obtained for qualitative and quantitative culture.

In patients with unexplained diarrhea with a negative colonoscopy, small bowel disease should be considered. This is especially true when stool collection and clinical presentation suggest malabsorption. Upper endoscopy can then be performed to evaluate proximal small bowel mucosa. Proximal duodenal biopsies should be avoided because of pseudoflattening of the mucosa overlying Brunner’s glands. Specific diagnoses such as Whipple’s disease, celiac sprue, and/or other malabsorptive syndromes can be established with diagnostic biopsies.

A positive screening test for sprue such as endomysial antibodies or tissue transglutaminase should be confirmed with biopsies. Some advocate establishing histopathologic changes before treatment. Usually 2 or 3 specimens obtained in the second or third portion of the duodenum with regularized forceps are sufficient. Although upper endoscopy is generally the procedure of choice, evaluation of the more distal small bowel may be beneficial in some specific cases (e.g., persistent symptoms in suspected sprue). Barium small bowel studies should not be considered sufficient to make the diagnosis of sprue.

Enteroscopy, especially in cases in which patients have occult blood in their stools, may be warranted. This is especially true for patients with suspected Crohn’s disease limited to the small bowel.

SUMMARY

Judicious utilization of endoscopy (both lower and upper) can greatly aid in diagnosing the etiology of chronic diarrhea. Directed mucosal biopsies for culture and histopathology may lead to rapid disease ascertainment and therapy.

REFERENCES


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