Communication from the ASGE Standards of Practice Committee

GUIDELINE

The role of endoscopy in inflammatory bowel disease

This is one of a series of statements discussing the use of GI endoscopy in common clinical situations. The Standards of Practice Committee of the American Society for Gastrointestinal Endoscopy (ASGE) prepared this text. In preparing this guideline, a search of the medical literature by using PubMed from January 1980 through March 2014 was performed by using the keywords "inflammatory bowel disease," "Crohn's disease," "ulcerative colitis," "gastrointestinal endoscopy," "endoscopy," "endoscopic procedures," and "procedures." Pertinent studies published in English were reviewed, and additional references were obtained from the bibliographies of the identified articles and from recommendations of expert consultants. When little or no data existed from well-designed prospective trials, emphasis was given to results from large series and reports from recognized experts. Guidelines for appropriate use of endoscopy are based on a critical review of the available data and expert consensus at the time that the guidelines are drafted. Further controlled clinical studies may be needed to clarify aspects of this guideline. This guideline may be revised as necessary to account for changes in technology, new data, or other aspects of clinical practice. The recommendations were based on reviewed studies and were graded on the strength of the supporting evidence by using the GRADE criteria[1] (Table 1).

This guideline is intended to be an educational device to provide information that may assist endoscopists in providing care to patients. This guideline is not a rule and should not be construed as establishing a legal standard of care or as encouraging, advocating, requiring, or discouraging any particular treatment. Clinical decisions in any particular case involve a complex analysis of the patient's condition and available courses of action. Therefore, clinical considerations may lead an endoscopist to take a course of action that varies from these guidelines.

Endoscopy is fundamental to the care of patients with inflammatory bowel disease (IBD) and is essential for diagnosing and treating both Crohn's disease (CD) and ulcerative colitis (UC). Endoscopy is used to make an initial diagnosis of IBD, distinguish CD from UC, assess disease extent and activity, monitor response to therapy, survey for dysplasia, and provide endoscopic treatment. The purpose of this document is to update a previous ASGE Standards of Practice Committee Guideline providing a practical strategy for the use of endoscopy in the evaluation and management of patients with IBD.[2]

0016-5107/$36.00
http://dx.doi.org/10.1016/j.gie.2014.10.030

COLONOSCOPY WITH ILEOSCOPY

Colonoscopy with ileoscopy allows direct visualization and biopsy of the mucosa of the rectum, colon, and terminal ileum. Prospective studies have demonstrated that colonoscopy with ileoscopy is a safe procedure with a low rate of adverse events in patients with IBD.[3] Relative contraindications to performing endoscopic procedures in patients with IBD include severe colitis and toxic megacolon. Unless contraindicated, a full colonoscopy with intubation of the terminal ileum should always be performed during the initial evaluation of patients with clinical presentations suggestive of IBD. Sodium phosphate–based bowel cleansing regimens[3-6] and nonsteroidal anti-inflammatory drug (NSAID) use should be discouraged before the examination,[7] because both can cause mucosal changes mimicking IBD. Ideally, at least 2 biopsy specimens should be taken from 5 sites throughout the examined bowel, including the ileum and rectum, during the initial endoscopic evaluation.[8]

Patients with other colitides can have clinical presentations and endoscopic features similar to those observed with IBD. These colitides include infectious colitis, drug-induced colitis, ischemic colitis, and segmental colitis associated with diverticulosis. The value of endoscopy alone in distinguishing IBD from non-IBD colitides is limited,[9] and additional clinical and histologic data often are required.[10]

The acquisition of detailed information from an index colonoscopy before initiating therapy is important for differentiating CD and UC. Therapy, once initiated, may obscure discriminating features of CD from UC such as segmental colitis, patchy distribution of inflammatory changes, and rectal sparing.[11,12] The most useful endoscopic features consistent with CD rather than UC are skip lesions (segmental colitis), rectal sparing, involvement of the terminal ileum, identification of the internal opening of a fistula tract, and anal or perianal disease.[13-16] Other endoscopic features suggestive of CD include aphthous ulcers, deep ulcers, serpiginous ulcers, and cobblestoning.[17,18] Endoscopic features suggestive of UC include diffuse and continuous inflammation proximal to the anal canal, granularity, loss of the normal vascular pattern,

TABLE 1. GRADE system for rating the quality of evidence for guidelines[1]

Quality of evidence	Definition	Symbol
High	Further research is very unlikely to change our confidence in the estimate of effect.	⊕⊕⊕⊕
Moderate	Further research is likely to have an important impact on our confidence in the estimate of effect and may change the estimate.	⊕⊕⊕◯
Low	Further research is very likely to have an important impact on our confidence in the estimate of effect and is likely to change the estimate.	⊕⊕◯◯
Very low	Any estimate of effect is very uncertain.	⊕◯◯◯

friability, superficial ulcerations, and a line of demarcation, which is described as an abrupt transition between normal and abnormal mucosa at the proximal extent of the colitis.[17] Stricturing disease is rare in UC and should raise the possibility of CD or malignancy.[19] However, none of these endoscopic features are specific for CD or UC.

Ileoscopy is fundamental in distinguishing true CD ileitis from UC with backwash ileitis. The latter demonstrates a mild mixed inflammatory infiltrate of the lamina propria without crypt distortion, atrophy, or epithelial changes.[16,17,20] Backwash ileitis occurs in up to 25% of patients with UC with pancolitis.[17] Endoscopic features that favor backwash ileitis include a short, contiguous segment of mildly inflamed ileum without stricture, stenosis, or significant ulcerations in which the inflammation appears to be a continuation of the colitis in the cecum.[17,21] Features that favor CD ileitis include extensive inflammation, inflammation in the absence of pancolitis, patchy inflammation, inflammation that is of greater severity than the cecal inflammation, and discrete ulcers or stricturing of the terminal ileum or ileocecal valve.[17,21]

The finding of inflammatory changes around the appendiceal orifice (cecal patch or periappendiceal patch) in the setting of UC with an otherwise normal right side of the colon should not be misdiagnosed as CD.[22,23] The clinical implication of a cecal patch is not clear, and both prospective and retrospective studies have demonstrated that patients with UC who have a cecal patch have a similar rate of remission, relapse, and proximal extension compared with those with no cecal patch.[22,24]

Colonoscopy, together with other diagnostic modalities, can differentiate CD from UC in approximately 90% of patients.[13,25] Patients with colon disease that cannot be classified into one of the two major forms of IBD are defined as having IBD, type unclassified (IBD-U).[26] The term *indeterminate colitis* is reserved for patients who have undergone colectomy and remain unclassified after pathology evaluation of the resection specimen.[26] In a prospective study of more than 350 patients with IBD followed for >22 months, the index colonoscopy was accurate in distinguishing CD from UC in 89% of cases.[13] Among the remaining patients, the diagnosis was revised in 4%, whereas 7% continued to be categorized as IBD-U. In one multicenter, population-based, follow-up study of 843 cases of IBD in which 739 patients had clinical data available for 5 full years of follow-up, only 9% of patients initially classified as UC or CD had a change in diagnosis.[25] A wide range (5%-30%) in prevalence rates of IBD-U in various pediatric studies[27,28] is considered reflective of variation in classification criteria.[17]

Mucosal biopsy is a critical component of the endoscopic evaluation of patients with suspected IBD and may be necessary to differentiate IBD from other causes of colitis. Because IBD is a chronic disease, histologic features of chronic inflammation can help to make the diagnosis.[10,15,17,18,29,30] Although there is no single pathology criterion that can definitively establish a diagnosis of IBD, biopsy specimens are critical for differentiating CD from UC and for differentiating IBD from other colitides, such as acute self-limited colitis.

During initial diagnostic endoscopic evaluation, specimens should be obtained from both diseased and normal-appearing mucosa.[31-33] Biopsy specimens from different locations should be separately labeled. Features suggesting chronicity include architectural distortion, basal plasmacytosis, increased cellularity of the lamina propria, pyloric gland metaplasia, and Paneth cell metaplasia in the left side of the colon.[10,16,17,30,34,35] Skip areas of macroscopically and microscopically normal mucosa support a diagnosis of CD.[13,15] Although the presence of epithelioid granuloma suggests CD, granulomas are not pathognomonic for CD and can be found in other diseases such as UC in association with crypt injury, tuberculosis, fungal and bacterial infections, diversion colitis, sarcoidosis, and foreign body reaction.[15,36-38] Only granulomas in the lamina propria, not associated with crypt injury, support a diagnosis of CD.[15] The frequency of detection of granulomas varies from 13.6% to 55.6% of endoscopic