Reporting ileocolonoscopy in inflammatory bowel disease

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Video endoscopy has become an indispensable tool to many domains of clinical gastroenterology, but it is particularly valuable in the diagnosis and management of inflammatory bowel disease (IBD). Indications for colonoscopy in patients with IBD include making the initial diagnosis, differentiating Crohn's disease (CD) from ulcerative colitis (UC), assessing disease extent and severity, determining response to therapy, predicting clinical relapse, planning surgery, detecting dysplasia, and delivering endoscopic therapies such as stricture dilation and polypectomy. Each of these roles require endoscopic reporting to be accurate, reproducible and meaningful. While the advent of digital image capture has improved communication of endoscopic findings, rigorous and consistent communication of findings remains critical to good patient management. The present paper reviews key dimensions of endoscopy reporting in IBD but does not deal specifically with surveillance for dysplasia or endoscopic therapy, because they have been reviewed in detail elsewhere.

At minimum, endoscopy reports in patients with UC should achieve four goals; they should define the proximal margin of disease distribution, grade disease activity, assess whether the appearance remains consistent with UC (as opposed to CD), and identify complications such as strictures and masses that may harbour or conceal neoplasia.

The UC disease margin is important when selecting oral versus rectal therapy and when assessing dysplasia risk. The margin can be described most usefully as the most proximal anatomical segment of the colon where inflammatory changes are identified. This differentiates pancolitis from extensive colitis (margin proximal to the splenic flexure but distal to cecum), distal or left-sided colitis (margin distal to the splenic flexure), proctosigmoiditis and proctitis. Where the disease margin is distal to the splenic flexure, the report should also measure the disease margin's distance from the anal verge. Measurements are most meaningful and reproducible if they are taken during scope withdrawal; stretching of the colon while the scope is advanced can overestimate distance significantly.

Many scores and scales have been devised to classify the activity of UC along a spectrum from quiescent to fulminant. While the formal application of such scales is limited to clinical research protocols, all endoscopists should grade disease activity and (more importantly) identify the endoscopic features that determined the grade. The Baron scale (Table 1) of UC

severity is most familiar to endoscopists (1), but almost all systems of classifications rely on combinations and permutations of four key features: altered vascularity, erythema, granularity, contact versus spontaneous friability and ulceration. Spontaneous hemorrhage is a hallmark of severe disease, while deep ulcers may predict failure of medical therapy. At minimum, these features should be reported.

Endoscopic features that suggest the alternate diagnosis of CD in patients with established UC are familiar to most endoscopists and are reviewed well by most standard endoscopy textbooks. However, backwash ileitis, rectal sparing and the presence of a cecal patch with distal colitis warrant special emphasis in the context of accurate reporting, because they are all described in UC and should not be considered pathognomonic of CD. Such features must be reported with a caveat to avoid undue suspicion of CD.

Similarly, isolated aphthous ulcers have been described in the ileum after oral sodium phosphate bowel lavage in patients without other evidence of CD. Endoscopic differentiation of CD and UC is also virtually impossible in the setting of fulminant colonic disease.

If a stricture is encountered in the setting of UC or CD, the endoscopist must attempt to traverse the segment of stenosis to assess the proximal mucosa and should take biopsies of the stricture itself to exclude neoplasia. Accordingly, endoscopy reports must estimate residual lumen diameter, state whether

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TABLE 1
Baron score for endoscopic grading of ulcerative colitis

Category	Description	Score
Normal	Pale mucosa	0
	Normal vascular pattern clearly visible throughout (possible tertiary arborization)	
	No spontaneous bleeding and no bleeding to light touch	
Mild	Glistening mucosa	1
	Erythema and edema	
	Masking of normal vascular pattern	
Moderate	Granularity	2
	Bleeding to light touch	
	No spontaneous bleeding seen ahead of instrument on initial inspection	
Severe	Bleeding seen ahead of instrument on initial inspection and on light touch	3
	Mucopurulent exudate, occasional mucosal ulceration	

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TABLE 2
Crohn's Disease Endoscopic Index of Severity

Endoscopic findings	Score
Proportion of segments with deep ulcerations (multiply by 12)	0 to 12
Proportion of segments with superficial ulcerations (multiply by 6)	0 to 6
Average proportion of 10 cm segment surface area affected by disease (pseudopolyps, healed ulcers, erythema, edema, aphthoid, superficial or deep ulcers and ulcerated stenosis)	0 to 10
Average proportion of 10 cm segment surface area affected by ulceration (aphthoid, superficial or deep ulcers, and ulcerated stenosis)	0 to 10
Presence of nonulcerated stenosis in any segment	0 or 3
Presence of ulcerated stenosis in any segment	0 or 3
Total	0 to 44

the proximal colon was visualized and detail where biopsies were taken. The discovery of mass lesions and polyps in patients with long-standing UC and colonic CD is of great clinical significance, given the increased but controversial risk of high-grade dysplasia and colorectal cancer. While a detailed discussion of this debate is well beyond the scope of the present review, it is extremely important that endoscopists describe the morphology of all polyps and masses, report whether and how they were excised, and detail where biopsies were obtained. Biopsies from polypectomy bases, lesions left in situ and the surrounding mucosa are all needed to counsel patients on their need for colectomy.

In CD, clinical disease activity often correlates poorly with endoscopic activity. Because inflammation can be transmural, the mucosal appearance can underestimate its true severity. Furthermore, because the distribution and appearance of CD is highly heterogeneous, endoscopists face special challenges in producing reports that are both concise and comprehensive. Nonetheless, endoscopic disease activity can help to justify more aggressive therapy and is an important outcome measure. Endoscopic activity predicts postsurgical recurrence, and endoscopic healing predicts a more durable clinical remission following biological induction therapy (2,3).

The most recognized system for assessing severity of ileocolonic CD is the CD Endoscopic Index of Severity (Table 2) developed by the Groupe d'Etudes Therapeutiques des Affections Inflammatoires du Tube Digestif (4). This scale divides the ileum and colon into six segments and, although ostensibly complex, it reports only three key features: ulceration (aphthous, superficial or deep), inflammation (any ulceration, pseudopolyps, healed ulceration, erythema or edema) and stricture (ulcerated or nonulcerated). Although an exhaustive inventory of individual features often is neither feasible nor necessary, the presence or absence of the inflammatory and ulcerative changes listed in the CD Endoscopic Index of Severity should be reported for each anatomical segment. It is also important to identify segments that are normal or have minimally active disease in the event that surgical resection is considered. If a standardized approach and common lexicon is used, reporting in IBD can be highly reproducible with low interobserver variability (5). For assessing endoscopic

TABLE 3
Rutgeerts score for postoperative recurrence of Crohn's disease in the distal ileum

Endoscopic findings	Score
No aphthous ulcers	0
Less than five aphthous ulcers	1
More than five aphthous lesions with normal intervening mucosa, skip areas of larger lesions or lesions confined to ileocolonic anastomosis (ie, less than 1 cm in length)	2
Diffuse aphthous ileitis with diffusely inflamed mucosa	3
Diffuse inflammation with larger ulcers, nodules and/or narrowing	4

postoperative recurrence of CD in the terminal ileum, the Rutgeerts scoring system (Table 3) has been found to predict clinical relapse.

Given the high prevalence and clinical significance of perianal disease, endoscopy reports in patients with CD should routinely include findings on perineal and digital rectal examinations. The retroflexed view of the anal verge should also be described. Endoscopists should be careful not to state definitively that an internal fistula orifice was seen unless either a true lumen is identified or effluent is observed directly. More commonly, the endoscopist report is a suspicious focus of nodularity from which a fistula tract can only be implied.

New endoscopy software that uses standard report templates and drop-down menus can improve endoscopy reporting by standardizing structure and terminology, and are advantageous for most routine endoscopic procedures (6). However, experienced endoscopists are only too aware that no two inflamed colons are alike, and that constrained menus and templates often cannot capture the nuances of their appearance. Detail is invaluable in IBD reporting, and endoscopists should not be discouraged from using descriptive prose. The picture of colitis is worth a few words, if not a thousand.

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