EDITORIAL

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Is radiological healing alone enough? 'Can't take my eyes off' the mucosa

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See Article on Page 567-578

Crohn's disease (CD) is a chronic inflammatory disorder of the gastrointestinal tract in which the depth and severity of mucosal injury vary. A treat-to-target strategy emphasized that treatment must be adjusted via individualized monitoring of CD patients [1]. It is generally accepted that the treatment target is endoscopic mucosal healing; this is associated with better long-term outcomes (fewer exacerbations, reduced corticosteroid use, and lower risks of hospitalization and surgery) [2]. Recently, radiological healing (improvement evident on imaging) has been suggested to be an appropriate therapeutic target. However, the updated Selecting Therapeutic Targets in Inflammatory Bowel Disease (STRIDE)-II consensus recommended that radiological imaging should be viewed as adjunctive, and not as a formal treatment target [3]. Oh et al. [4] found that CD patients on anti-tumor necrosis factor α (TNF-α) therapy who achieved both endoscopic and radiological healing showed a better prognosis than those exhibiting endoscopic healing only.

In this issue of the *Korean Journal of Internal Medicine*, Hyun et al. [5] report that radiology plus ileocolonoscopy was not superior to radiology alone in terms of CD prognosis. Of 501 patients in clinical remission evaluated via computed tomography enterography (CTE), magnetic resonance enterography (MRE), and/or ileocolonoscopy, 372 (74.3%) underwent MRE alone and 129 (25.7%) CTE or MRE with ileocolonoscopy. The cumulative, clinical remission maintenance rates of the two groups did not differ significantly (p = 0.526, log-rank test). Hyun et al. [5] thus suggested that radiology might replace ileocolonoscopy in a subset of CD patients.

Continuous objective monitoring with treatment adjustments are today accepted to play a crucial role when formulating treat-to-target strategies for some patients [6]. It is difficult to assess patients with small bowel lesions; the endoscopic data correlate poorly with both the clinical symptoms and biomarker titers. Radiological monitoring might aid such patients. Also, stricturing phenotype, one of the poor prognosis factors of CD, can not be predicted by severe endoscopic lesions [7]. Paredes et al. [8] found that the fecal calprotectin level correlated significantly with intestinal ultrasonographic data to monitor the activity of ileal CD. This suggests that other imaging modalities could be used to monitor ileal CD.

Selection bias may be in play in the work of Hyun et al. [5]; patients with active inflammation were more likely to exhibit endoscopic lesions than patients in remission. Also, the cited authors just

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compared ileocolonoscopy and image modalities, and measurements of C-reactive protein and/or fecal calprotectin (non-invasive markers) levels would have been informative. Noh et al. [9] found that the fecal calprotectin level combined with that of a non-invasive marker (the serum C-reactive protein or albumin level) reliably predicted deep healing in CD patients. In the present era of biologics, the focus has turned to mucosal healing in patients with inflammatory bowel disease. We wonder whether the results might have varied on subgroup analyses by CD medication (e.g., anti-TNF-α agent) status. Early and regular surveillance of CD-associated intestinal cancer status is important; this becomes imperative when disease duration is prolonged [10]. However, radiological images do not detect such lesions. Endoscopy efficiently detects postoperative recurrence (as confirmed by Rutgeerts' scoring), but radiology is premature as an objective indicator for evaluation [11].

Although the cited study suggests that radiology alone reliably monitors the clinical outcomes of selected CD patients, further prospective studies on patients in clinical remission are warranted to 'take our eyes off' the mucosa.

Conflict of interest

No potential conflict of interest relevant to this article was reported.

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