

Growing role of magnetic resonance enterography in the management of Crohn disease

Akira Hokama¹, Tetsu Kinjo¹, Jiro Fujita²

¹ Department of Endoscopy, Graduate School of Medicine, University of the Ryukyus, Okinawa, Japan

² Department of Infectious Diseases, Respiratory, and Digestive Medicine, Graduate School of Medicine, University of the Ryukyus, Okinawa, Japan

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by Strakšytė et al,
see p. 734

Crohn disease (CD) is a disorder of chronic inflammatory bowel disease (IBD), which mainly involves the small intestine and colon. Colonoscopy remains the mainstay for initial diagnosis and reassessment of disease activity in CD, but is a relatively invasive procedure, thus multiple colonoscopies are not well accepted by patients.¹ Magnetic resonance enterography (MRE) is complementary to colonoscopy for the management of patients with CD. It can provide accurate radiological findings, including segmental mural hyperenhancement, wall thickening, intramural edema, strictures, ulcerations, fistulas, sacculations, and diminished motility, at reasonable healthcare costs.^{2,3} Standard MRE requires colonic preparation similar to colonoscopy, which is poorly tolerated due to significant volume. In addition, the use of intravenous gadolinium as a contrast agent has a rare but potential risk of nephrogenic disorder.

Diffusion-weighted imaging (DWI) is a MR-based technique that analyzes the motion of water molecules in the extracellular and cellular compartments. Compared with conventional MRE, DWI is quicker, less time consuming, and requiring no intravenous contrast agent.¹ DWI-MRE has been shown to be accurate for assessing disease activity and severity in IBD. However, there are contradicting results in the literature regarding its diagnostic effectiveness, contribution to conventional contrast MRE, and the alternative use of DWI-MRE.⁴

In the current issue of *Polish Archives of Internal Medicine* (*Pol Arch Intern Med*), Strakšytė et al⁵ analyzed 229 patients with suspected and diagnosed CD who underwent DWI-MRE and colonoscopy. They compared apparent diffusion coefficient with the Crohn disease endoscopic index of severity, magnetic resonance index of activity (MaRIA), and Clermont index. The authors

clearly showed that DWI is a valuable tool that can identify inflamed bowel segments as accurate as the conventional MaRIA score and to discriminate between mild and moderate and severe CD activity. The strength of their study is the prospective design and complete colonoscopy performed in all patients. Some of the limitations acknowledged by the authors were that it was a single-center study and the fact that the analysis did not include a follow-up period. The remaining challenge is the differentiation between inflammation and fibrosis. MRE has a high accuracy in the diagnostic workup of CD stricture. Varying degrees of inflammation and fibrosis coexist in the same stricture. As the management of CD stricture, which include medical, endoscopic, or surgical therapy, depends on whether the nature of the stricture is prevalently inflammatory or prevalently fibrotic,^{6,7} future advances of MRE techniques to discriminate inflammation from fibrosis are required. Another issue is that intra- and interobserver reproducibility of quantitative analysis for DWI-MRE has not been ascertained so far.⁸ Further comparative studies with larger samples in multiple centers are needed to resolve these clinical issues.

Finally, in the era of coronavirus disease 2019 (COVID-19) pandemic caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) infection, the management of CD patients has been markedly affected, especially regarding endoscopic procedures. The Humanitas Research Hospital (Milan, Italy) and the Societe Francaise d'Endoscopie Digestive based on the Italian and French experience have recommended the guidance during the COVID-19 outbreak as follows:⁹ In the setting of endoscopic procedure for mild-moderate CD, monitoring of the disease with patient-reported outcomes and fecal calprotectin in home tests have been proposed. In the setting

Correspondence to:

Akira Hokama, MD, PhD,
Department of Endoscopy,
Graduate School of Medicine,
University of the Ryukyus, 207 Uehara,
Nishihara, Okinawa 903-0215, Japan,
phone: +81 98 895 1144, email:
hokama-a@med.u-ryukyu.ac.jp

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of endoscopic procedure for moderate-severe CD, first screening with CT or MRE, and confirmation with colonoscopy have been proposed for the first CD diagnosis. If CD has already been known, evaluation of fecal calprotectin tests and/or MRE or bowel ultrasonography have been the proposed solution. In any setting, of course, personal protective equipment is mandatory to reduce the risk of transmission, and only “essential” examinations which may change patient management should be carefully considered and performed. The growing role of MRE in the management of CD should be established by accumulating clinical studies conducted in safer healthcare systems.

ARTICLE INFORMATION

DISCLAIMER The opinions expressed by the author are not necessarily those of the journal editors, Polish Society of Internal Medicine, or publisher.

CONFLICT OF INTEREST None declared.

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