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Body Imaging

Unusual intestinal and extra intestinal findings in Crohn's disease seen on abdominal computed tomography and magnetic resonance enterography

Alida Ainouche^{a,*}, Carole Durot^a, Philippe Soyer^b, Reza Kianmanesh^c, Sébastien Mulé^d, Christine Hoeffel^e^a Department of Radiology, Centre Hospitalo-Universitaire de Reims, Reims 51092, France^b Department of Abdominal Imaging, Hôpital Lariboisière-APHP, Paris 75010, France^c Department of Digestive Surgery, Centre Hospitalo-Universitaire de Reims, Reims 51092, France^d Service d'Imagerie Médicale, AP-HP, Hôpitaux Universitaires Henri Mondor, Créteil, INSERM IMRB U955, Equipe 18, Créteil, France^e Department of Radiology, Centre Hospitalo-Universitaire de Reims, Reims 51092 and CRESTIC, Reims Champagne-Ardenne University, Reims 51867, France

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ABSTRACT

The magnetic resonance (MR) enterography technique has improved over the past few years to provide an excellent means of evaluating the gastrointestinal tract for suspected Crohn's disease. Although the prevalent intestinal manifestations of Crohn's disease have been extensively discussed in the radiology literature, some of its rare complications, especially extra intestinal, have received less attention. Uncommon findings that may be seen on MR enterography and abdominal CT examinations performed in patients with Crohn's disease include hepatic sinusoidal dilatation, primary sclerosing cholangitis, fistulas in unusual locations, hepatic and splenic abscesses, and spondylarthritis. Radiologists should be aware of these potentially rare manifestations. They should be kept in mind during clinical examinations and should be routinely searched for and reported if present.

1. Introduction

Computed tomography (CT) and magnetic resonance enterography (MRE) are currently routinely performed in patients with suspected or known Crohn's disease (CD). Imaging features of the intestinal manifestations and usual complications of CD have been extensively described throughout the literature [1]. However, less frequent findings may be missed by the radiologist confronted with CT or MRE in a context of CD assessment. They include rare sites of involvement of the disease, unusual patterns of common complications, and extra intestinal findings. These manifestations have to be kept in mind and should be routinely searched for and reported if present.

To this aim, we review and illustrate the unusual findings that may be seen on abdominopelvic CT or MR enterography (MRE) performed for the evaluation of patients with CD. These include unusual locations of the disease, manifestations of the disease, complications, associated extra intestinal findings, and potential incidental findings.

2. Unusual sites of involvement

Although the ileum is the most common site of involvement in CD,

other less common sites have been described, such as the stomach [2], duodenum (Fig. 1), the proximal small bowel, Meckel's diverticulum, and the appendix. Of note, in a recent study involving 1329 patients, 16.7% showed involvement of the proximal small bowel [3].

The appendix is frequently involved with ileocolonic CD, with similar findings to those found in the small bowel. However, it rarely is the first presentation of CD. Appendiceal involvement may also be caused by contact inflammation in the setting of ileitis (Fig. 2). Interestingly, in a study of 76 patients with CD studied with CT enteroclysis [4], hyperenhancement of the appendiceal wall had a specificity of 100% for active CD versus inactive CD.

3. Unusual types of complications

3.1. Enteric complications

3.1.1. Fistulas

Fistulas developing anywhere around the gastrointestinal tract may be diagnosed on CT or MR images. Some locations are particularly rare such as enterocutaneous, sigmoidovaginal and enterovesicular fistulas.

As stated in recent consensus recommendations for the utilization of

* Corresponding author.

E-mail addresses: aainouche@chu-reims.fr (A. Ainouche), cdurot@chu-reims.fr (C. Durot), philippe.soyer@aphp.fr (P. Soyer), rkianmanesh@chu-reims.fr (R. Kianmanesh), choeffel-fornes@chu-reims.fr (C. Hoeffel).

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