

Small Bowel Stenosis in Crohn's Disease: Characterizing the "STENOSIS" with MR Enterography

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Purpose:

Magnetic resonance enterography (MRE) is quickly becoming a first line test for diagnosis and disease surveillance in Crohn's disease based on its diagnostic accuracy, ability to perform dynamic imaging, and lack of ionizing radiation. The purpose of this Educational E-Poster is to illustrate the role of MRE in distinguishing a small bowel stenosis that results from active inflammation, which is treated with medical therapy, from a stenosis that results from fibrotic disease, which is managed surgically. This will be accomplished by detailing an MRE protocol that has been effectively implemented in a community hospital setting, providing an overview of current literature, introducing a mnemonic device to facilitate a systematic approach for evaluating a stenosis, and showing example cases with appropriate clinical background information.

Outline of Content:

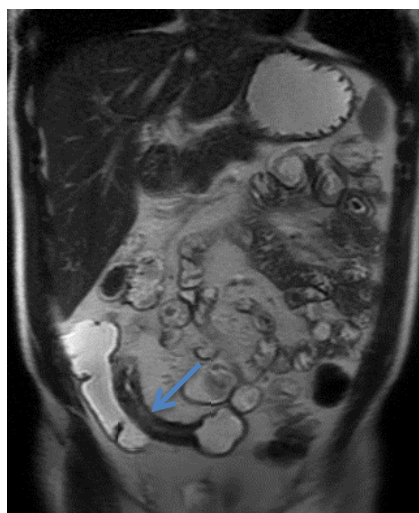
- Detail a robust MRE protocol.
- Review small bowel stenosis in Crohn's disease, including clinical manifestations and treatments.
- Establish the role of MRE for evaluating a stenosis, including a review of the literature.
- Introduce the mnemonic device "STENOSIS" to provide a framework for characterizing a stenosis and effectively guiding clinical therapy.
- Provide a pictorial review and sample cases, including clinical findings and outcomes.

Summary:

Crohn's disease is a chronic inflammatory condition associated with significant morbidity. Patients with Crohn's disease often develop a small bowel stenosis that may result in a small bowel obstruction and is important to fully characterize in order to guide clinical management. Differentiating a stenosis that results from active inflammation from that of fibrotic disease can be accomplished with MRE and, to this end, the mnemonic device "STENOSIS" has been created to provide a systematic approach for the radiologist. This includes: S, for stenosis characteristics (length, degree of pre-stenotic bowel dilation, and peristalsis on cine images); T, for Thickness of the bowel wall; E, for Edema within the bowel wall; N, for lymph Nodes in the mesentery; O, for Outside of bowel (e.g. abscess or fistula); S, for Signal intensity of the bowel wall, including restricted diffusion; I, for Intensity of enhancement; and S, for Steato-, as in fatty proliferation/infiltration. The importance of each finding has been described in the literature and will be reviewed and reinforced with a series of sample cases from the authors' institution.



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