

Inflammatory Bowel Disease: Case Studies;

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Target audience: radiologists, clinical support scientists and MR technologists who are involved in bowel imaging and wish to learn about the applications of MRI for inflammatory bowel disease

Highlights;

- Using illustrated case examples, the presentation will describe the MRI features of enteric inflammatory bowel disease including complications. The qualitative and quantitative use of MRI in disease activity assessment and treatment response evaluation will be described. New methods of assessing disease including diffusion weighted imaging and cine motility will be presented

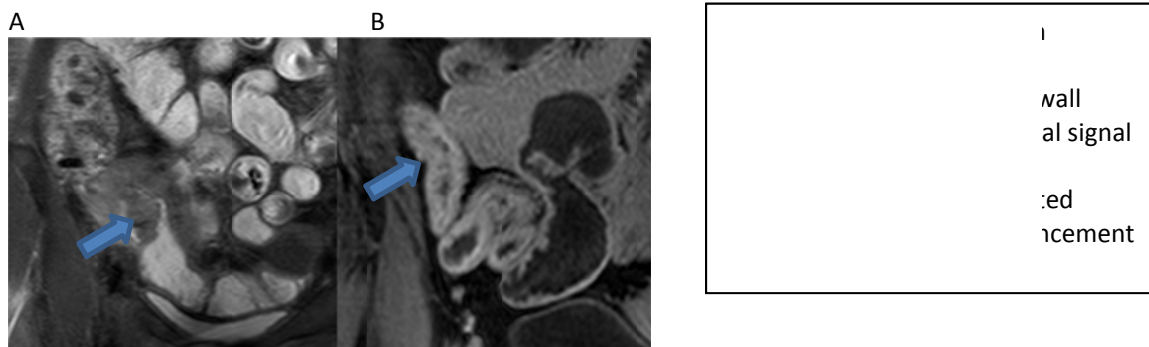
What the audience will learn.

After the presentation the audience will

- Be familiar with the classical appearance of inflammatory bowel disease on enteric MRI
- Understand how features on MRI can be reliably used to classify biological disease activity
- Learn how the changes on MRI can be used to evaluate therapeutic efficacy
- Be aware of the research questions which need to be addressed to fulfil the potential of MRI in inflammatory bowel disease

The hall marks of enteric inflammatory bowel disease on MRI include bowel wall thickening, increased mural T2 signal, and increased enhancement after IV gadolinium on T1 weighted images (1). Although sensitivity for mucosal disease is less than that of endoscopy, it is possible to visualise mucosal ulceration using high spatial resolution sequences in well distended bowel segments. Extra-enteric complications including fistulation and abscess formation are also well demonstrated. New approaches to assessing inflammatory bowel disease using diffusion weighted imaging (2) and cine motility sequences (3) are showing promise as adjuncts to conventional T1 and T2 weighted imaging.

In addition to documenting the presence and extent of enteric disease, both qualitative and quantitative measurement of various features on MRI can provide information on biological activity of the disease, crucial for optimum patient management. In particular increasing wall thickness, T2 signal, post contrast enhancement and a layered pattern of contrast enhancement are all validated markers of active disease (4). Various MRI activity scores have been proposed (5,6) and are undergoing validation. Examples of how these scores are used in clinical practice will be shown. MRI is also increasingly used to monitor treatment response and holds considerable promise as a potential imaging biomarker for novel therapeutic agents



1: Tolan DJ, et al. Radiographics. 2010 Mar;30(2):367-84. 2: Oussalah A, et al Gut. 2010 Aug;59(8):1056-65. 3: Menys A, et al. Eur Radiol. 2012 Nov;22(11):2494-501. 4. : Punwani S, et al Radiology. 2009 Sep;252(3):712-20. 5.: Rimola J, et al. Inflamm Bowel Dis. 2011 Aug;17(8):1759-68. 6. Steward MJ, et al.. Eur J Radiol. 2012 Sep;81(9):2080-8.