



Tracing Transmural Healing in Crohn's Disease with MRI - correlation between MR Enterography, laboratory findings and endoscopy

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INTRODUCTION

Magnetic resonance enterography (MRE) is an important tool for diagnosis and management of patients with Crohn's disease (CD). Several radiological scoring systems are used to assess CD on MRE, primarily to quantify inflammation, guide treatment and monitor disease. Magnetic Resonance Index of Activity (MaRIA) being the most widely used and validated system. Due to its complexity, especially in routine clinical practice, a simplified MaRIA criteria have been developed (sMaRIA).

HYPOTHESIS:

Our primary objective is to show that there is a significant correlation between disease activity assessed by sMaRIA criteria on MRE and endoscopic findings in patients with CD at our institution. Additionally, we want to show reliability of the sMaRIA criteria by comparing MRE assessments performed independently by an experienced abdominal radiologist and a radiology resident with limited experience, to determine the level of agreement.

METHODS

We retrospectively evaluated 120 patients with a confirmed diagnosis of CD who underwent both MRE and endoscopy at our institution less than six months apart. Patients were selected from our institutional database based on the availability of complete clinical, endoscopic, and radiologic records.

ANTICIPATED OUTCOMES

We expect a strong correlation between sMaRIA scores and endoscopic findings at the level of the terminal ileum. In contrast, we anticipate a lower degree of correlation in colonic segments. Preliminary observations also suggest good agreement between the experienced and less experienced radiologists in applying the sMaRIA criteria; however, full statistical analysis is currently ongoing.

CONCLUSION

The results of this study will contribute to the growing evidence supporting simplified MRE-based scoring systems as reliable tools for assessing Crohn's disease activity. Demonstrating good inter-observer agreement, even between readers with varying levels of experience, could encourage broader clinical adoption, inform training strategies, and potentially support the integration of sMaRIA into routine radiology workflows in the future.

References

1. Roseira J, Ventosa AR, de Sousa HT, *et al.* The new simplified MARIA score applies beyond clinical trials: A suitable clinical practice tool for Crohn's disease that parallels a simple endoscopic index and fecal calprotectin. *United European Gastroenterol J.* 2020;8 (10):1208-1216.
2. Lee WE, Weng MT, Wei SC, *et al.* Comparison of the magnetic resonance scoring systems for Crohn's disease activity: MaRIA, simplified MaRIA, and Nancy scores. *Abdom Radiol (NY).* 2023;48(7):2228-2236.
3. Tao Y, Li H, Xu H, *et al.* Can the simplified magnetic resonance index of activity be used to evaluate the degree of activity in Crohn's disease? *BMC Gastroenterol.* 2021;2(1):409.
4. Ordás I, Rimola J, Alfaro I, *et al.* Development and Validation of a Simplified Magnetic Resonance Index of Activity for Crohn's Disease. *Gastroenterology.* 2019;157(2):432-439.