

Small bowel Crohn's Disease – Does capsule endoscopy surpass magnetic resonance enterography?

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Introduction: Currently, both small bowel capsule endoscopy (SBCE) and magnetic resonance enterography (MRE) can be used to assess small bowel involvement in Crohn's disease (CD). However, SBCE appears to be more sensitive in the detection of mild and proximal lesions.

Aim: Compare the diagnostic yield for both techniques.

Materials and methods: Adult patients with either confirmed or suspected Crohn's disease who were submitted to both CE and MRE were retrospectively reviewed. Only patients performing SBCE and MRE within 3 months were included and patients with changes in CD therapy during this period were excluded.

Presence of ulcers, villous edema and stenosis were assessed in SBCE, and patients with Lewis Score (LS) ≥ 135 were considered to have significant inflammation. SB wall thickening, hyperenhancement, edema, comb sign or presence of ulcers were considered signs of active CD in MRE.

Results: Included 30 patients (53.3% suspected and 46.7% confirmed CD) with a median age of 31 ± 11 years, 56.7% of which were females. Comparing SBCE and MRE, SBCE had a significantly higher diagnostic yield (90.0% vs 53.3%, $p=0.007$), with higher detection of ileal lesions (83.3% vs 53.3%, $p=0.022$). Even more importantly, only SBCE identified jejunal inflammatory activity (46.7% vs 0.0%, $p<0.001$). Despite the fact that statistical significance was not attained, SBCE identified 2 traversable strictures that were not identified by MRE (6.7% vs 0.0%, $p=0.500$) and out of 14 patients with suspected Crohn's disease, SBCE identified significant inflammation in 4 patients with negative MRE (85.7% vs 57.1%, $p=0.289$). MRE was more likely to detect findings when SBCE showed moderate to severe inflammatory activity (LS ≥ 790) compared with those with mild inflammatory activity (LS 135-790) (72.7% vs 30.8%, $p=0.041$).

Conclusions: In our cohort, SBCE showed a significant overall higher diagnostic yield than MRE, with higher detection of distal lesions and, more importantly, SBCE identified proximal lesions in nearly half of examination while MRE was unable to identify any case. MRE diagnostic yield was more heavily influenced by the severity of inflammatory activity, being significantly inferior to SBCE in patients with mild inflammatory activity.