Small Bowel and Colonic Mucosal Healing in Crohn’s Disease—Pillcam COLON 2 for Entire Intestinal Capsule Endoscopy

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BACKGROUND: In Crohn’s Disease (CD), both small bowel and colonic mucosa are affected in almost half the patients. We developed a novel concept for the non-invasive evaluation of the entire intestinal tract, using the PillCam COLON2 Capsule (PCC2). Our aim was to evaluate mucosal healing in patients with non-stricturing non-penetrating small bowel plus colonic CD in corticosteroid-free remission.

METHODS: Included patients with non-stricturing non-penetrating small bowel plus colonic CD in corticosteroid-free remission. Patients had been submitted to ileocolonoscopy—identifying active CD lesions, such as ulcers and erosions—and small bowel capsule endoscopy (SBCE)—with an assessed Lewis Score (LS) ≥ 135—at diagnosis. After ≥ 1 year of follow-up, patients underwent entire gastrointestinal tract evaluation with PCC2, whose findings were reviewed by an independent researcher, blinded to both the initial endoscopic results and CD therapy. The primary endpoint was to assess mucosal healing in small bowel and colon mucosa, defined as a LS < 135 as well as no active CD lesions in the colon.

RESULTS: Twelve patients were included, 7 were male; mean age was 32 years, mean follow-up was 38 months. On baseline SBCE, mean LS was 1022 (± 810), and moderated to severe inflammatory activity (LS ≥ 790) was found in 7 patients; no small bowel stenoses were observed. On ileocolonoscopy, 8 patients (66.7%) presented with a segmental pattern of colonic lesions, while mucosal damage throughout the entire colon was present in the remaining 4. Two patients were treated with combination immunosuppression therapy (anti-TNFα and azathioprine), 8 with azathioprine in monotherapy and 2 with mesalazine. Three patients (25%) achieved mucosal healing in both the small bowel and the colon, while in 5 patients (42%) there was disease activity limited to either the small bowel (n = 3) or the colon (n = 2). It was possible to observe the entire gastrointestinal tract in 10 of the 12 patients (83%) undergoing PCC2.

CONCLUSIONS: Only a minority of patients in sustained corticosteroid-free clinical remission achieved mucosal healing in both the small bowel and the colon, highlighting the limitations of clinical assessment when stratifying disease activity and need for pan-enteric endoscopy to guide therapeutic adjustment. This recently developed technique for non-invasive endoscopy of the entire intestinal tract with PCC2 was both feasible and safe, unveiling a new method for the evaluation of known Crohn’s disease.