Capsule Endoscopy is Superior to Small Bowel Follow Through and Equivalent to Ileocolonoscopy in Suspected Crohn’s Disease.


1. A multicenter, prospective study was conducted in 80 patients to evaluate the diagnostic yield of capsule endoscopy (CE) before ileocolonoscopy as compared with small bowel follow through (SBFT) and ileocolonoscopy, and to evaluate the incremental diagnostic yield of CE compared with ileocolonoscopy and SBFT in patients with suspected Crohn’s disease.

2. The diagnostic yield of CE compared with ileocolonoscopy for the detection of inflammatory lesions was not significantly different. The majority of lesions identified only by ileocolonoscopy (20 of 31, 64.5%) were detected in the cecum and not in the terminal ileum, whereas the majority of lesions identified only by CE (14 of 18, 77.8%) were detected in the terminal ileum.

3. CE combined with ileocolonoscopy detected 107 of 110 lesions (97.3%), whereas the combination of SBFT and ileocolonoscopy detected only 63 lesions (57.3%), showing a significant 40% difference in diagnostic yield in favor of CE and ileocolonoscopy.

4. The diagnostic yield of CE was significantly higher than SBFT (93% vs. 25.6%) for detecting inflammatory lesions in the small bowel.

5. Early mucosal features of Crohn’s disease may be subtle and difficult to identify by SBFT, with multiple studies demonstrating the relatively low diagnostic accuracy of this method for detecting small bowel inflammation. CE and ileocolonoscopy on the other hand may be complementary in a subset of patients.
Abstract:

**Background & Aims:** Evaluation of the small intestine for inflammation has traditionally relied on small-bowel follow-through (SBFT), but multiple studies have demonstrated its low diagnostic accuracy. Capsule endoscopy (CE) transmits high-quality images of the small intestinal mucosa; it can be used to visualize the entire length of the small bowel and much of the mucosa. We compared the diagnostic yields of CE vs SBFT in a prospective study of patients with suspected small-bowel Crohn's disease.

**Methods:** Eighty patients with signs and/or symptoms of small-bowel Crohn's disease (age, 10-65 years) underwent CE, followed by SBFT and ileocolonoscopy. Readers were blinded to other test results. The primary outcome was the diagnostic yield for inflammatory lesions found with CE before ileocolonoscopy compared with SBFT and ileocolonoscopy. A secondary outcome was the incremental diagnostic yield of CE compared with ileocolonoscopy and CE compared with SBFT.

**Results:** The combination of CE and ileocolonoscopy detected 107 of 110 inflammatory lesions (97.3%), whereas the combination of SBFT and ileocolonoscopy detected only 63 lesions (57.3%) (P < .001). The diagnostic yield of CE compared with ileocolonoscopy was not different (P = .09). The diagnostic yield was higher for CE than for SBFT (P < .001). Of the 80 patients with suspected Crohn's disease, 25 (31.3%) had the diagnosis confirmed. Eleven were diagnosed by CE findings alone and 5 by ileocolonoscopy findings alone. In the remaining 9 patients, diagnostic findings were identified by at least 2 of the 3 modalities. No diagnoses were made on the basis of SBFT findings alone.

**Conclusions:** CE was better than SBFT and equivalent to ileocolonoscopy in detecting small-bowel inflammation. Although ileocolonoscopy remains the initial diagnostic test of choice, CE is safe and can establish the diagnosis of Crohn's disease in patients when ileocolonoscopy results are negative or the terminal ileum cannot be evaluated.