

A Single Center Retrospective Comparison of Double Balloon and Spiral Enteroscopy

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Abstract

Purpose: To compare double balloon and spiral enteroscopy.

Methods: The following is a retrospective comparison of patients evaluated with either modality for suspected pathology of the small bowel at a single tertiary referral center by a single operator with an assistant. Between May and August 2006, 20 patients underwent 20 antegrade DBE (Double Balloon Enteroscopy) procedures. Between July and October 2008, 20 patients underwent 20 antegrade SE procedures. Indications included obscure gastrointestinal bleeding, gastrointestinal bleeding with prior suspected lesions and abdominal pain. All patients had multiple prior evaluations including upper endoscopies, colonoscopies and/or VCE's. For DBE the EN-450 T5 200cm enteroscope with TS-12140 145cm over-tube (Fujinon Inc., Wayne, NJ) and for SE the Fujinon enteroscope noted above or the Olympus SIF 180 enteroscope with the single use Endo-Ease Discovery SB over-tube (Spirus Medical, Inc., Stoughton, MA) was employed. Patients completed a clear liquid diet the evening before. All procedures were performed under deep sedation by anesthesia personnel and led by a single operator with an assistant according to accepted published techniques. With the DBE both the endoscope and over-tube have balloons at their tips and through a series of inflations and deflations the enteroscope is advanced through the small intestine. With SE the small bowel is engaged and spiraled onto the over-tube permitting deep enteroscopy.

Results: Comparisons were made including procedure time, estimated depth of insertion, indications, and findings. Mean estimated length of small bowel traversed from pylorus with DBE and SE was 221 ± 66.6 cm and 242 ± 49.4 cm, respectively, with a mean procedure time of 52.4 ± 18.1 min and 30.3 ± 9.41 min, respectively. In the DBE arm and SE arm, nine and eleven abnormalities of the small bowel were identified, respectively, including: arteriovenous malformations, erythematous mucosa, ulcers, lymphagectasias, diverticulae and masses. In some cases esophageal, gastric, duodenal, and colonic abnormalities not noted in prior studies were observed during DBE/SE. Therapeutic actions including argon plasma coagulation and clipping or diagnostic actions including biopsy were performed in four DBE's and four SE's. No immediate or long term complications were observed.

Conclusion: In this short series we have demonstrated that SE is as safe as DBE and comparatively elective in the exploration, diagnosis and management of small bowel pathology. Most importantly, we were able to navigate through greater distances (P-value 0.264437) of small bowel in statistically significant (P-value 0.000021) shorter periods of time with SE compared to DBE - an important finding given the substantial time required by DBE.