

Complication Rate of Spiral Enteroscopy in the First 1750 Patients

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ABSTRACT

Introduction: Serious complications of deep small bowel enteroscopy occur infrequently. In published series, severe complications occur in deep small bowel enteroscopy in 0.3% to 4% of cases.

Aims and Methods: The aim of this study is to publish all recognized serious complications occurring during spiral enteroscopy. There were 1,750 patients who underwent spiral enteroscopy from May 2007 until November 2008. Cases have been performed in North America and Europe. Data was collected from device representatives and a survey of device users. The device used in all cases was the Discovery SB which is 118cm long with a hollow spiral 5.5mm high and 22cm long with a scope coupler on the proximal end. The Discovery SB has an outer diameter of 16mm and an internal diameter of 9.8 mm. The enteroscopes used in the examinations were 9.2mm Olympus SIF-180 and 9.4mm Fujinon EN450T-5 200cm enteroscopes. Severe complications were defined as pancreatitis, non-transient intussusception, severe pain after the procedure requiring admission to the hospital, bleeding requiring transfusion or admission to the hospital, cardio-pulmonary arrest during a procedure and perforation.

Results: There were no reported complications of pancreatitis, esophageal or gastric perforations, severe bleeding requiring transfusion, cardio-pulmonary arrests or deaths during or resulting from the spiral enteroscopy procedures. There were 7 severe complications (0.4%) reported as a result of the procedure. Six were small bowel perforations (0.34%). All were recognized immediately when the scope tip entered the peritoneum. Of these, three small bowel perforations occurred in the duodenum and three occurred in the jejunum. All perforations occurred while pushing to advance the scope through the stationary overtube. None of the perforations occurred during therapeutic interventions. None of the perforations occurred during rotation of the overtube to pleat the small bowel. Three of the perforations occurred when the experience of the physician was less than 10 cases. One patient experienced severe pain after the procedure and was admitted for observation. The patient did not require intervention and was later discharged.

Conclusion: The overall severe complication rate was 0.4% and a perforation rate of 0.34%. All of the perforations were recognized immediately when the scope tip visualized the peritoneum. Perforations may be minimized by advancing the enteroscope only when the lumen is clearly visualized.