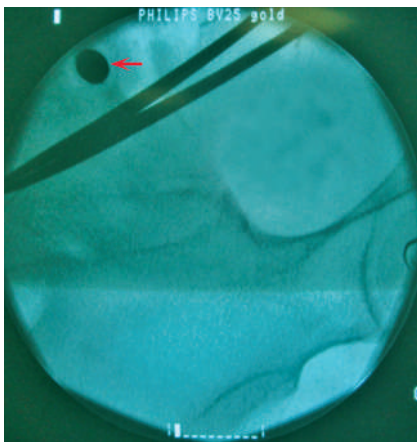


## Small-bowel obstruction secondary to wireless capsule endoscopy: extraction of the capsule without enterotomy

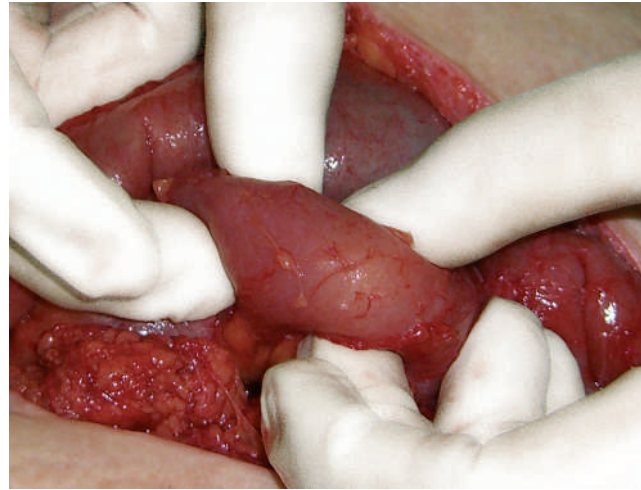


**Fig. 1** Plain abdominal radiograph showing the capsule in the right lower quadrant of the abdomen.



**Fig. 2** Fluoroscopic view of the capsule.

Although wireless capsule endoscopy is a relatively noninvasive diagnostic tool for exploring the whole small intestine endoscopically [1,2], the contraindications and complications of this new technique have not yet been fully described.



**Fig. 3** At surgery the impacted wireless capsule was identified as the cause of the small-bowel obstruction.

A 46-year-old woman was admitted with a 3-month history of gastrointestinal bleeding of unknown origin. She had had a right hemicolectomy and terminal ileum resection because of severe gastrointestinal bleeding 10 years previously, when the histopathological diagnosis was Crohn's disease. No pathological findings were detected in a small-bowel series or on gastroscopic and colonoscopic examination, and so capsule endoscopy was performed. Three days later she had to undergo surgery because she had developed signs of small-bowel obstruction. Plain abdominal radiography demonstrated the capsule in the right lower quadrant (● Fig. 1), and the exact location of the capsule was determined by intraoperative fluoroscopy (● Fig. 2). The adhesions that were causing capsule impaction and intestinal obstruction were dissected (● Fig. 3). The capsule was swept through the colon to the rectum by manipulation and extracted by digital rectal examination peroperatively. The patient was discharged 3 days after surgery and she experienced no further problems.

To our knowledge, this is the first case of capsule extraction without enterotomy or intestinal resection in a patient who had a history of both previous abdominal surgery and Crohn's disease. The overall incidence of capsule retention is 0.75%, but this figure reaches 21% in patients with known stenosis [3,4]. Fewer than 1% of patients with capsule retention require surgery [5]. Any procedure has both limitations and potential complications, and capsule endoscopy is no exception. Before performing capsule endoscopy in a patient who has risk factors for capsule retention or intestinal obstruction, the patient should be made fully aware of the potential need for surgery. Wireless capsule endoscopy should not be performed in patients who are unwilling to undergo surgery or in patients who are unfit for surgery.

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