

## Endoscopically Assisted Wireless Capsule Endoscopy in a Patient with Familial Adenomatous Polyposis after Total Proctocolectomy and Continent Ileostomy

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Prophylactic proctocolectomy has become the standard treatment in patients with familial adenomatous polyposis, although the operation does not cure the disease. Gastroduodenal polyps develop in up to 90% of FAP patients and peri-ampullary carcinoma remains a major threat even after the colon has been removed. Therefore, surveillance for these tumors by periodic duodenoscopy is recommended. Jejunal and ileal adenomas have been reported in 20% and 40% of FAP patients, respectively. However, the true prevalence of small bowel tumors in FAP patients may be underestimated due to the relative inaccessibility of the small bowel to standard endoscopic procedures and to the lack of sensitivity of small bowel series. Although the malignant potential of such tumors is thought to be low, because an adenoma-carcinoma sequence similar to that of colonic polyps has been suggested it is important to evaluate FAP patients for small bowel tumors.

Wireless capsule endoscopy is a novel diagnostic tool that allows for painless endoscopic imaging of the entire small bowel [1]. WCE makes it possible to detect small bowel abnormalities that are usually not detectable by other standard diagnostic modalities [2]. Currently there is only one ongoing clinical study that directly addresses the yield of capsule endoscopy in the diagnosis of small bowel tumors. Only a few reports involving a small number of patients showed that WCE could be a promising method for the diagnosis of small bowel tumors.

Ileo-anal anastomosis, which requires proctocolectomy, is now the procedure of choice in most FAP patients. However, patients who underwent total colectomy with the Kock pouch, the procedure of choice until a decade ago, cannot naturally excrete the capsule or the catheter that is usually used for emptying ileal content. Hence, the Kock pouch has been considered a contraindication for WCE.

We report the first case of a successful WCE in a FAP patient prior to surgical intervention.

### Patient Description

A 52 year old male FAP patient underwent total proctocolectomy with permanent ileostomy and Kock pouch at the age of 27. He is enrolled in an annual surveillance program of upper endoscopy, alternating between gastroscopy and duodenoscopy. The last procedure demonstrated a large sessile adenoma of the papilla of Vater and the patient was referred for surgical ampullectomy. In order to visualize the entire small bowel prior to surgery WCE was performed with an M2A capsule (Givenimage, Yokneam, Israel).

The patient ingested the capsule with no difficulty. The capsule recorded for 7 hours and 56 minutes. The small bowel transit time was 76 minutes. The Kock pouch was clearly identified after 2 hours and 4 minutes. The WCE clearly visualized



Duodenal polypoid lesion compatible with an adenoma of Vater papilla.

the ampullary adenoma [Figure]. No other small bowel lesions were revealed. Plain abdominal film identified the capsule in the pouch after 48 hours. A pediatric colonoscope was inserted through the nipple of the pouch. Foreign body forceps were then used to capture and remove the capsule uneventfully.

### Comment

Small bowel tumors, both benign and malignant, are uncommon. Malignant small bowel tumors comprise only 1–2% of all gastrointestinal malignancies. However, patients with FAP and other gastrointestinal polyposis syndrome, have a significantly higher incidence of small bowel tumors. Small bowel series can identify neoplasms in only one-third of cases. Enteroclysis, although more sensi-

FAP = familial adenomatous polyposis

WCE = wireless capsule endoscopy

tive, cannot be routinely used in surveillance programs because it is invasive, unpleasant and carries a significant amount of radiation. While push enteroscopy enables the taking of biopsies, it only visualizes 60–120 cm beyond the ligament of Treitz and is associated with significant discomfort to the patient.

WCE allows for non-invasive endoscopic imaging of the entire small bowel [1,2] and has been proven to be a safe and tolerable procedure. A number of clinical trials in a variety of clinical settings [3,4] demonstrated the high diagnostic yield of WCE, which is superior to that of both push enteroscopy and small bowel radiography [5].

The case presented suggests that WCE

may serve as the single, simplest, most tolerable and effective method for screening FAP patients for small bowel lesions. Moreover, WCE may be used safely in those patients who have undergone total proctocolectomy with the Kock pouch.

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