Circumferential small bowel adenocarcinoma causing obstruction due to impaction of capsule endoscopy device

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Patient: 53 years, female

Clinical History:
A female patient with history of familial polyposis and previous colectomy presented with acute small bowel obstruction following capsule endoscopy due to malignant stricture of the small bowel diagnosed with CT.

Imaging Findings:
A 56 year old woman with a known history of coeliac disease, familial adenomatous polyposis coli and recurrent carcinoma of the colon presented with recent onset abdominal pain, diarrhoea and inguinal lymphadenopathy. She was admitted for upper gastrointestinal endoscopy and wireless capsule endoscopic evaluation of her small bowel. She had previously undergone multiple bowel resections, including a subtotal colectomy with an ileorectal anastomosis, which had subsequently been converted to a total rectal colectomy with ileo-anal pouch formation.

A malignant looking ulcerated polyp was identified by capsule endoscopy in the jejunum. This correlated with a tight stricture demonstrated during a subsequent small bowel series. The patient developed acute small bowel obstruction, and computed tomography (CT) scan of the abdomen and pelvis performed with oral and intravenous contrast demonstrated the capsule lodged within the lumen proximally to a circumferential small bowel tumour as the cause.

Extensive abdominal and pelvic lymphadenopathy and a few suspicious pulmonary nodules in the lung bases were also identified.

The patient underwent a palliative jejuno-jejunal bypass procedure during which the capsule device was extracted through an enterotomy made proximally to the tumour. The tumour was pathologically proven to be an adenocarcinoma. The patient was discharged home with a plan for palliative chemotherapy.

Discussion:
Wireless capsule endoscopy has been utilised as an important imaging modality for small bowel pathology, such as occult gastrointestinal bleeding or surveillance of familial polyposis. Capsule retention is a recognised common, yet mostly asymptomatic complication of this technique, and is defined as failure to pass the device after 2 weeks of ingestion [1]. This is usually caused by an underlying structural abnormality or benign or malignant stricture [2]. The incidence of capsule retention ranges from 0% to 13% depending on the indication for which the capsule endoscopy procedure has been performed, with higher retention rates in certain subgroups of patients [1, 2]. Small bowel obstruction is rarely encountered following capsule impaction and may have an early or late presentation but requires urgent attention. CT imaging is the modality of choice for planning retrieval [3].

We have demonstrated the importance of considering this uncommon complication of widely used capsule
endoscopy and the importance of cross-sectional imaging in its early diagnosis and management.

**Differential Diagnosis List:** Circumferential small bowel adenocarcinoma causing obstruction due to impaction of capsule endoscopy device.

**Final Diagnosis:** Circumferential small bowel adenocarcinoma causing obstruction due to impaction of capsule endoscopy device.

**References:**


Figure 1

Description: The capsule is projected over the left side proximally to contrast enhanced loops of small bowel. Origin:
Description: The capsule is well visualised within the left side of the abdomen. Origin:
Figure 3

Description: The capsule is visualised alongside with distended more proximal loops of small bowel. The transition point is where the capsule is entrapped proximally to the tumour.

Origin:
Description: There is artifact from capsule which is seen alongside with distended more proximal loops of small bowel. Origin:
**Description:** Axial view through the same level as Figure 4 with better demonstration of the capsule.

**Origin:**
Figure 6

Description: The tumour is seen distally to the capsule. There is malignant stricture and non-opacification of more distal loops of small bowel in keeping with a transition point. Origin: