



Contents lists available at ScienceDirect

International Journal of Surgery Case Reports

journal homepage: www.casereports.com

Report of video-capsule endoscopy disruption producing episodic small bowel obstruction after prolonged retention

Nelson A. Royall^{a,*}, Creighton D. Fiscina^b^a Department of Surgery, Orlando Health, 1414 Kuhl Avenue, Orlando, FL 32806, USA^b Advanced Surgical Care Specialists, Florida Hospital Medical Group, 4106 West Lake Mary Boulevard, Suite 330, Lake Mary, FL 32746, USA

ARTICLE INFO

Article history:

Received 27 August 2014

Accepted 20 October 2014

Available online 23 October 2014

Keywords:

Capsule endoscopy

Crohn's disease

Foreign body

Inflammatory bowel diseases

Intestinal obstruction

ABSTRACT

INTRODUCTION: Wireless video-capsule endoscopy is a procedure which provides direct visualization of the gastrointestinal tract, particularly the jejunum and ileum. Capsule retention is the main risk associated with capsule endoscopy, occurring at a significantly elevated incidence in patients with known or suspected Crohn's disease.

PRESENTATION OF CASE: A case of a prolonged retained capsule with subsequent fragmentation producing a multicentric complete small bowel obstruction in a 39 year old male patient who had undergone wireless video capsule-endoscopy approximately three years prior. Management required surgical resection of the strictured jejunum and removal of retained capsule fragments under fluoroscopic guidance.

DISCUSSION: Although capsule endoscopy is capable of diagnosis, evaluation, and monitoring inflammatory bowel disease, understanding the elevated risk for capsule retention is important in this population. Specifically, prolonged capsule retention appears to increase the risk of capsule disruption, and likely the potential for intestinal perforation.

CONCLUSION: Patients should therefore be carefully selected for monitoring based upon treatment compliance and offered early endoscopic or surgical intervention in the setting of questionable compliance due to the risk for capsule disruption and subsequent intestinal perforation.

© 2014 The Authors. Published by Elsevier Ltd. on behalf of Surgical Associates Ltd. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/3.0/>).

1. Introduction

Wireless video capsule-endoscopy (VCE) is a valuable method for evaluating the gastrointestinal tract, which was first approved by the FDA in 2000.¹ The PillCam SB (Given Imaging, Duluth, Georgia) is the sole approved VCE available in the United States, measuring 1.1 cm × 2.6 cm and consists of a plastic capsule encasing a metal oxide silicon chip camera, lens, six light-emitting diodes (LED), two silver dioxide battery sources, and an ultra-high frequency radio-transmitter. Along with double-balloon endoscopy (DBE), capsule endoscopy allows for direct visualization of small intestinal lesions and monitoring of chronic disease.¹ Current applications and contraindications to the use of capsule endoscopy are shown in Table 1. In particular, potential benefits of capsule endoscopy in the setting of Crohn's disease are to diagnose lesions absent on initial imaging, monitor the activity of disease, identify post-operative exacerbations, and screening for neoplastic or infectious lesions in established disease.²

Although the VCE is a relatively small device, capsule retention is a significant complication that is often under-recognized. Capsule retention is more likely to occur in patients with established contraindications shown in Table 1. In particular, Crohn's disease has been shown to increase risk of capsule retention more than any other established risk factor with an incidence up to 7.3%.^{3,4} Although spontaneous passage of a retained capsule has been described after a brief period, the associated incidence of small bowel obstruction requiring eventual intervention for capsule extraction via double-balloon endoscopy or surgical resection has been shown to be approximately 7.3%.^{2,3}

In the setting of retained VCE, the most significant complication that must be evaluated for is intestinal perforation. While the morbidity and mortality for intestinal perforation secondary to a retained VCE is significant, to date there have only been three cases reported since the original FDA approval.^{5–7} In each reported case active Crohn's disease was noted at the site of the capsule-associated intestinal perforation, suggesting thinning and friability as a predisposing pathophysiologic event to the perforation. Despite multiple components, to date there is only a single case report of mechanical failure in the device allowing capsule fragmentation.⁸ If capsule fragmentation occurs however, the risk for intestinal perforation would likely significantly increase risk of intestinal perforation. We report a single case of a patient with a

* Corresponding author at: Orlando Health Department of Surgery, 86 W. Underwood St, Suite 201, Orlando, FL 32806, USA. Tel.: +1 321 841 5142; fax: +1 407 648 3686.

E-mail address: nelson.royall@orlandohealth.com (N.A. Royall).



Fig. 1. Computed tomography imaging findings of the patient presenting with acute abdominal pain found to have partial small bowel obstruction with stricture-type Crohn's disease. An incidental finding of intra-luminal metallic foreign bodies within the mid-jejunum and proximal ileum proximal to stricture points was also made.

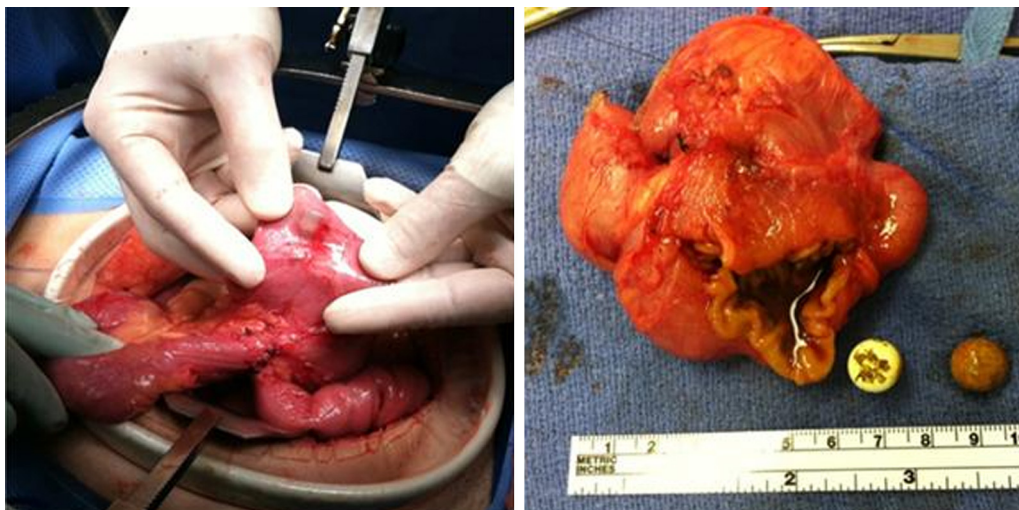


Fig. 2. Findings at the time of surgical exploration demonstrated a fragmented video-capsule endoscopy capsule with inability to pass beyond strictured regions of the jejunum and ileum. Management required resection of the stricture point at the previous enteroenterostomy and removal of the capsule fragments.

retained capsule endoscopy for three years with evidence of multicentric small bowel obstruction secondary to capsule fragments located at strictured small intestine.

2. Presentation of case

A 39 year old male presented to the Emergency Department with an acute episode of sharp abdominal pain, nausea, and bilious emesis for approximately 48 h. He reportedly had multiple similar episodes in the past which had been determined to be partial small bowel obstructions. CT of the abdomen demonstrated intestinal wall thickening from the mid-jejunum to the terminal ileum with a visible stricture in the distal jejunum, as shown in Fig. 1. Dilated small bowel loops were located proximal to a previous enteroenterostomy where a metallic object was located. An additional metallic object was present within the distal jejunum. A diagnosis of partial small bowel obstruction was made based on clinical and radiologic imaging, which appeared to be secondary to intra-luminal foreign bodies located at a jejunal stricture.

The patient had been previously diagnosed with Crohn's disease by colonoscopy at approximately age 18 and had required two previous surgeries for enterectomy of stricture disease. He had resisted continued disease-modifying medications and continued to have episodes of abdominal pain. Approximately 3 years prior to the presenting episode he had undergone a VCE procedure to evaluate activity of his Crohn's disease by a local gastroenterologist. The patient reported that he was unable to pass the capsule and due to non-compliance with follow-up did not present for further evaluation. He denied noticing passage of the capsule between its placement and the presenting episode. He subsequently had developed episodes of sharp abdominal pain similar to his previous episodes of small bowel obstructions which resolved after several days of self-management.

The patient underwent urgent exploratory laparotomy for structuring Crohn's disease with small-bowel obstruction and retained capsule. At exploration he was found to have a previous loop enteroenterostomy at the mid-jejunum with a stricture located at the anastomosis and a capsule fragment located at the stricture

Download English Version:

<https://daneshyari.com/en/article/4289308>

Download Persian Version:

<https://daneshyari.com/article/4289308>

[Daneshyari.com](https://daneshyari.com)