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Occult Spigelian Hernia Presenting as Inability to Complete Colon Cancer Screening in a Patient with a History of Rectal Cancer

Authors' Contribution:
Study Design A
Data Collection B
Statistical Analysis C
Data Interpretation D
Manuscript Preparation E
Literature Search F
Funds Collection G

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Conflict of interest: None declared

Patient: Male, 62
Final Diagnosis: Spigelian hernia
Symptoms: Abdominal discomfort
Medication: —
Clinical Procedure: Hernia repair and colonoscopy
Specialty: Gastroenterology and Hepatology

Objective: Mistake in diagnosis

Background: While it is well known that abdominal wall hernias can pose obstacles for colonoscopy, these may not be obvious in obese patients, particularly when the hernia is in an unusual place.

Case Report: A 62-year-old man presented with inability to complete colon cancer screening by means of colonoscopy or barium enema. On exam, he was noted to have a Spigelian hernia present in his left lower quadrant abdominal wall. CT colonography identified incarcerated sigmoid colon within the hernia accounting for his inability to complete colonoscopy or barium enema. Repair of his Spigelian hernia was thus performed, allowing for ease of future colorectal cancer screening.

Conclusions: Colorectal cancer screening is an evidence-based benchmark for effective primary care, but is often ordered and interpreted like a blood test, without reference to the technical aspects of the procedure. Failure of colonoscopy requires examination of the patient and consideration of why the procedure failed. In particular, patients in whom colonoscopy fails must be carefully evaluated for occult partially obstructing hernias.

MeSH Keywords: Colonography, Computed Tomographic • Colonoscopy • Colorectal Neoplasms • Hernia, Abdominal

Full-text PDF: https://www.amjcaserep.com/abstract/index/idArt/905840

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Background

As screening colonoscopy has moved in many clinical systems to open access, the procedure is often performed by colonoscopists who may never see the patient before or after the procedure. If the referring primary provider is not versed in the technical aspects of the procedure and the colonoscopist's conclusions are based only on intraluminal views conveyed through a written report, then the diagnostic process may go astray. In particular, although failure to advance the colonoscope can be ascribed to many causes, occult hernias may be missed, particularly in obese patients, if neither the primary provider nor the colonoscopist examines the patient specifically with this in mind. We present the case of an obese patient with a Spigelian hernia that obstructed both colonoscopy and barium enema without being diagnosed.

Case Report

An obese 62-year-old white male with BMI of 37 and a history of rectal cancer treated via endoscopic excision presented with a history of occasional left lower quadrant pain for the past 8 years. There was no history of significant antecedent abdominal wall trauma or other predisposition to hernia. One year prior to his presentation, the patient had undergone attempted colonoscopy. At that time, a large polyp had been removed from his rectum. The polyp contained carcinoma, but margins were negative at the polyp's stalk. At that time, the endoscopist could not advance the scope past the sigmoid colon and attributed this to a presumed diverticular stricture at the site, perhaps reflecting upon the history of chronic intermittent left lower quadrant discomfort. Barium enema was attempted after the incomplete colonoscopy, but the patient could not tolerate the barium enema because of discomfort (Figure 1). Colonoscopy was attempted again 1 year later in follow up, but was again unsuccessful with the same explanation.

Upon evaluation in our clinic, he described rare symptoms of obstipation but had no regular difficulties with eating or moving his bowels, typically defecating once or twice daily. Deep palpation of his abdomen revealed a non-reducible mass in his left lower quadrant, approximately the size of an egg, deep within his subcutaneous fat without overlying skin changes or tenderness to palpation at the site.

After evaluation in the surgery clinic, the patient was referred for CT colonography to further attempt to assess the remainder of the colon prior to surgical intervention and to evaluate the contents of the presumed Spigelian hernia. CT colonography defined a Spigelian hernia in the left anterior abdominal wall containing the sigmoid colon and was limited in quality due to inability to distend the colon proximal to the hernia with CO_2 (Figure 2A, 2B).

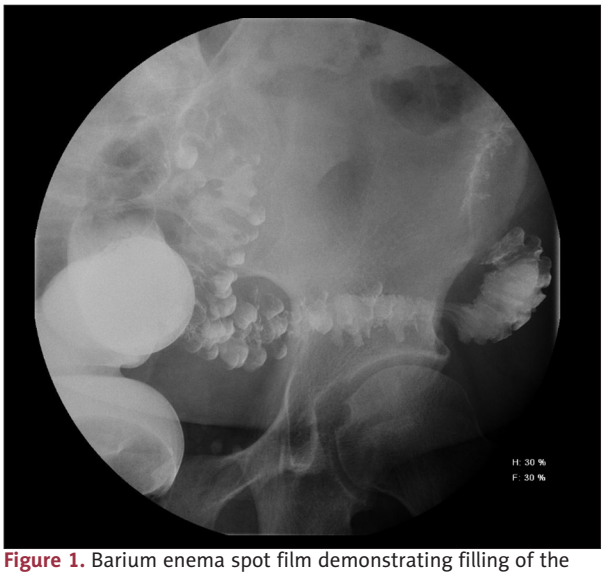

Figure 1. Barium enema spot film demonstrating filling of the distal rectosigmoid, with minimal proximal filling. The patient was unable to tolerate further administration of contrast because of pain.

The patient was scheduled for elective repair of his Spigelian hernia. Patient consent was obtained preoperatively for use of operative photos and imaging for educational and teaching purposes.

The fascial defect was found to be 3.5×4.5 cm. The hernia sac was dissected free circumferentially (Figure 3A) and the hernia sac and incarcerated colon were reduced. A synthetic mesh was placed in a sub-fascial underlay to re-enforce the hernia repair, and fascia was closed over the mesh using non-absorbable sutures (Figure 3B). The patient recovered uneventfully, and at was seen 3 weeks postoperatively without evidence of recurrence or problems. Colonoscopy was subsequently performed to complete the colorectal cancer surveillance. This was accomplished without difficulty and resulted in the excision of 2 benign tubular adenomas, 1 in the cecum and 1 in the transverse colon, neither of which were accessible endoscopically prior to hernia repair. Although we were not able to reexamine the patient personally at 1-year follow-up because he lived a long distance away from our medical center, review of his medical records at that time demonstrated no complaints or findings suggestive of further gastrointestinal issues, abdominal pain, or recurrent hernia.

Discussion

In the average-risk patient, screening for colorectal cancer is begun at age 50 and generally continued until age 75 (depending on the patient's health status) with colonoscopy as the primary means for screening [1,2]. After the first screening, further evaluations are performed at time intervals based upon

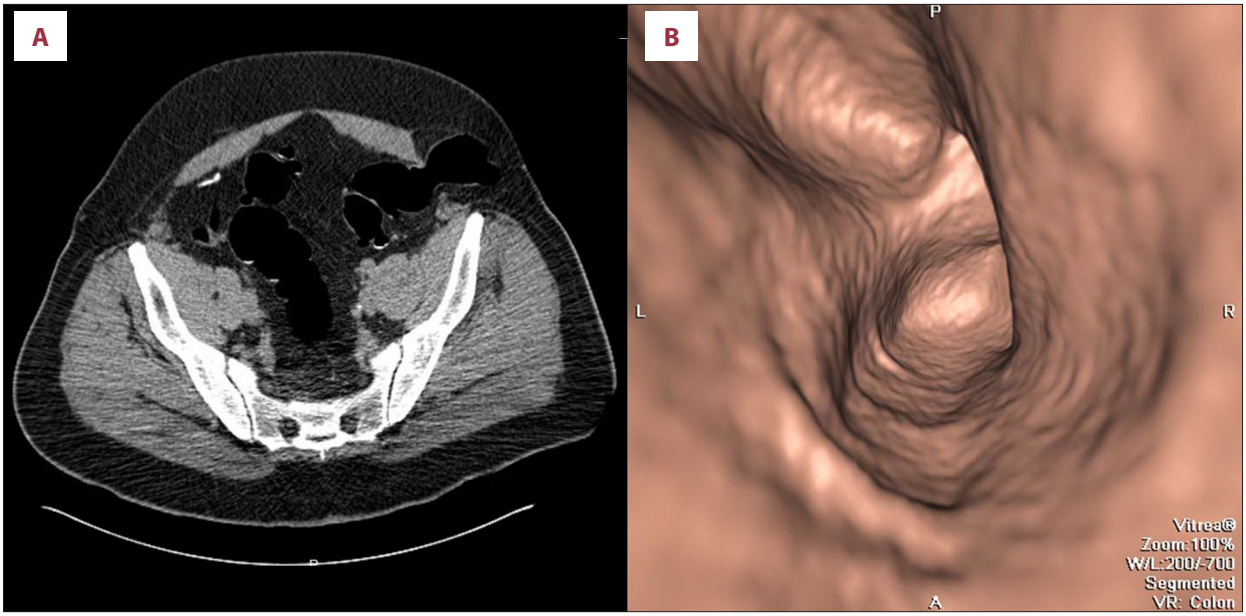

Figure 2. (**A**) CT colonography image demonstrating Spigelian hernia containing incarcerated sigmoid colon. (**B**) CT colonography reconstruction demonstrating site of obstruction.

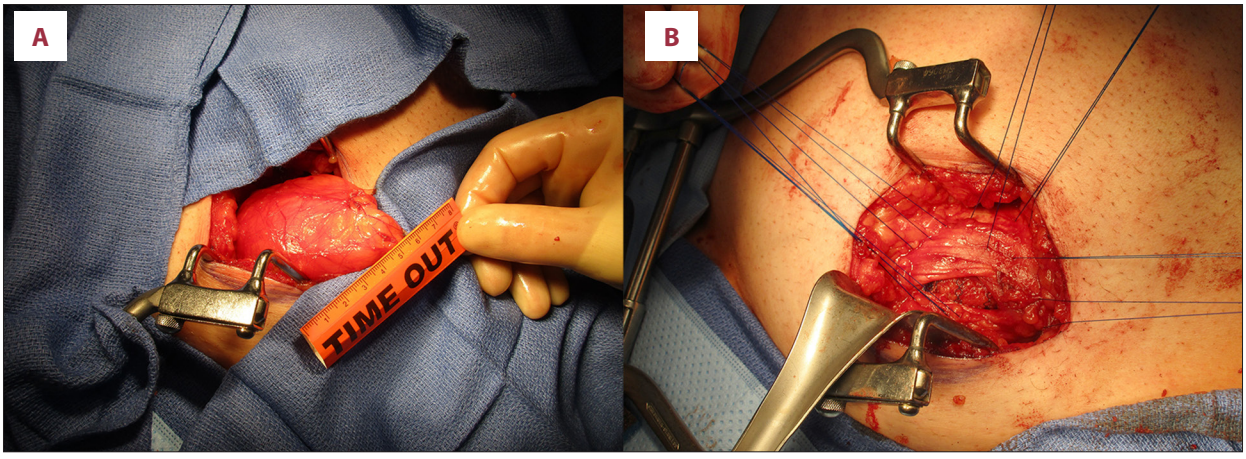

Figure 3. (**A**) Operative photo of Spigelian hernia containing sigmoid colon. (**B**) Operative photo demonstrating repair of hernia defect with mesh underlay.

findings on exam, with recommended follow-up colonoscopy at 10 years if the prior colonoscopy has been normal. Shorter time intervals for screening are recommended if the patient has higher than average risk of cancer due to hereditary or biological reasons, if multiple adenomatous polyps are found on colonoscopy, if the patient has a history of colorectal cancer, or if other screening techniques (such as fecal testing) are used. For patients who have a colorectal cancer removed surgically or endoscopically, guidelines recommend repeat colonoscopy within 1 year of resection [2]. Incomplete colonoscopy during which the endoscopist is unable to visualize the cecum occurs in 3–13% of cases [3]. Common reasons for incomplete colonoscopy include tortuosity, redundancy, patient discomfort, and poor prep quality. Stricture, adhesions causing abrupt angulation, and inguinal hernias containing bowel can also impede colonoscopy. In our patient, an occult incarcerated Spigelian hernia containing sigmoid colon impeded colonoscopy, undiagnosed perhaps because of his obesity. Factors increasing the risk of incomplete colonoscopy include female sex, age greater than 60, history of prior abdominal or pelvic surgery, poor bowel cleansing, and inflammatory bowel disease [3,4]. For patients in whom the colonoscope cannot be advanced to the cecum, barium enema or CT colonography are recommended to assess the remainder of the colon. CT colonography is more sensitive than barium enema contrast study at detecting polyps and cancers greater than or equal to 1 cm [5], but is more expensive and may not be available in some settings. Double balloon endoscopic techniques may

also be useful in selected patients and settings. In this particular patient, neither barium enema nor CT colonography was able to fully clear the colon, although better results were obtained with the CT colonography.

This case represents an unusual case of Spigelian hernia inhibiting completion of colorectal cancer screening on a patient with personal history of colon cancer. Spigelian hernias are generally small and notoriously difficult to diagnose preoperatively [6,7], typically presenting with point tenderness at the junction of the semilunar and semicircular lines. There is rarely evidence of acutely predisposing events such as trauma. Larger Spigelian hernias can become symptomatic because of incarcerated viscera [8]. Stomach, omentum, Meckel's diverticulum, colon, appendix, ovary, testicle, and endometrial tissue have each been reported within Spigelian hernias [9,10]. In a study of 81 Spigelian hernias requiring repair, 17% contained incarcerated tissue, most commonly preperitoneal or omental fat, and Spigelian hernias account for 2% of emergent operations performed secondary to hernias [9]. One might have expected that a Spigelian hernia of this size would have been easy to diagnose, but the patient's obesity substantially impeded facile physical examination. In addition, one more commonly suspects an inguinal or conventional ventral hernia as a problem in colonoscopy rather than a Spigelian hernia [3,4].

In retrospect, the patient had been seen around the time of attempted colon cancer screening by several physicians, including his primary care physician and his gastroenterologist, without making the diagnosis. We hope that heightened awareness of this issue facilitates rapid and accurate diagnosis in future cases.

Conclusions

Hernias should be reduced if possible before colonoscopy. Colonic incarceration within a Spigelian, ventral, or inguinal hernia should be included in the differential diagnosis when evaluating patients in which the endoscopist is unable to achieve complete colonoscopy with intubation of the cecum. At a minimum, careful abdominal wall examination is indicated in such patients. Spigelian hernias may be particularly difficult to diagnose as a cause of incomplete colonoscopy due to subtle findings on clinical exam if the hernia remains trapped below the external oblique muscle. Even more rare, a hernia may develop through the posterior rectus sheath [11]. Such diagnoses may become more common as CT colonography supplants barium enema as the procedure of choice after incomplete colonoscopy, offering more sensitive evaluation of the anterior abdominal wall.

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