Incarcerated Colonoscope in a Left Inguinal Hernia During Diagnostic Colonoscopy

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ABSTRACT

Colonoscope entrapment in an inguinal hernia is rare and few cases have been described in the literature. We present a 54-year-old patient who underwent a diagnostic colonoscopy which was complicated by incarceration of the colonoscope in a left inguinal hernia. This rare complication occurs more frequently during withdrawal, and our case was unique, given the incarceration of the colonoscope occurred during the insertion phase. Recognizing this scenario is very important to immediately proceed with general anesthesia and surgical consultation for successful nonoperative hernia reduction and colonoscope removal. We recommend reattempting colonoscopy after surgical hernia repair or proceed with computed tomography colonography if appropriate for the indication.

INTRODUCTION

Entrapment of the colonoscope in an inguinal hernia is a very rare complication of colonoscopy. Frequently, a left-sided inguinal hernia is involved, and different techniques have been described in the literature to manage this acute complication. We present a case of a diagnostic colonoscopy complicated by incarceration of the colonoscope in an unrecognized left inguinal hernia.

CASE REPORT

The patient is a 54-year-old man with medical history significant for hypertension and type II diabetes mellitus who presented for his first colonoscopy for a positive fecal occult blood test. He has no known family history of colorectal cancer or any significant surgical history. The procedure was performed under moderate conscious sedation and was noteworthy for a tortuous sigmoid and descending colon with concomitant significant looping that persisted despite multiple attempts with increasing doses of sedation, performing abdominal pressure, and changing the patient’s position. Subsequently, the scope was easily withdrawn all the way back to the rectum to start again and make more meticulous efforts to minimize looping going forward. Although the splenic flexure was again reached, the scope could not be withdrawn or reduced any further with significant fixed resistance. Initially, supine position was attempted followed by prone positioning of the patient without any significant success. The endoscopist was not aware that the patient had an inguinal hernia, thus incarceration of the scope in the sac was not initially suspected. However, because of the fixed resistance, clinical suspicion increased and subsequently confirmed by palpating the patient’s left inguinal area which showed a significant bulge containing a large colonoscope loop.

Anesthesia and the surgical team were called emergently to attempt bedside reduction of the hernia under general anesthesia and fluoroscopic guidance. Under fluoroscopic and endoscopic visualization, the colonoscope was advanced, increasing the size of the loop and bringing the tip of the colonoscope through the inguinal ring into the hernia sac through paradoxical motion. The scope loop was grasped within the hernia sac in the left scrotum, and manual pressure was applied by the surgeon under fluoroscopic
Visualization. Simultaneously, gentle attempts of withdrawing the scope with the least possible resistance were made by the endoscopist to bring the tip of the scope into the hernia sac ("pulley technique") (Figure 1). Once the tip was in the sac and the loop reduced, the scope was easily withdrawn by the endoscopist (Figure 2). During withdrawal, a small amount of intramucosal ecchymosis and superficial abrasions on the mucosa were noted, but no signs of deep injury or hematoma were seen. Once the scope was withdrawn, additional attempts to fully reduce the hernia were unsuccessful. Patient recovered uneventfully and was subsequently discharged the same day.

DISCUSSION

This case illustrates a very rare complication during colonoscopy. A total of 16 cases have been reported in the literature to date.1–13 A left-sided inguinal hernia is involved in most reported cases, with only 1 reported case of right inguinal hernia colonoscope entrapment and incarceration in a patient with a previous right hemicolecction.2

Interestingly, the inguinal hernia is not typically noted before the procedure in most reported cases. Colonoscope incarceration can occur during both insertion and withdrawal, although more frequently described during withdrawal.2 In our case, it occurred during the insertion phase. This scenario should be suspected whenever the endoscopist feels significant fixed resistance which should automatically trigger abdominal palpation. It is imperative once this rare event is identified, to proceed with general anesthesia and emergent surgical consultation with fluoroscopic guidance to increase the chance of successful nonoperative hernia reduction and colonoscope removal.3

The mechanism of scope entrapment involves the scope tip traversing the inguinal ring within the lumen of a loop of bowel that is within the hernia sac. Although the inguinal ring has sufficient diameter to allow passage of the scope parallel to itself at entry to and exit from the sac, the diameter is not sufficient for the scope loop, with its larger radius of curvature, to traverse the ring. Other successful attempts have been described in the literature that include manual reduction itself and surgical dissection of the hernial sac.

If the scope removal was successful with the above nonoperative technique, we recommend aborting the procedure and reattempting the colonoscopy after surgical hernia repair or proceeding with a computed tomography colonography if appropriate for the indication. The patient was referred to general surgery for inguinal hernia repair before repeating the colonoscopy. The surgery was deemed elective and is still postponed because of COVID-19 concerns. Patient is meanwhile scheduled for computed tomography colonography to avoid missing any obvious right-sided lesion.

DISCLOSURES

Author contributions: All authors contributed equally to this manuscript. M. Torrealba is the article guarantor.

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Informed consent was obtained for this case report.

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