CASE REPORT

Diverticulitis presenting as right incarcerated inguinal hernia

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Summary Certain life-threatening diseases are often misjudged as groin hernias. This report presents an unusual condition of diverticulitis with an abscess resulting from a perforation but having the appearance of an incarcerated inguinal hernia. The clinical features demonstrated were not due to a strangulation of the contents in the hernia, but rather resulted from a tracking of the pus from the peritoneal cavity into the hernia sac. Being in poor general condition, the patient underwent a laparoscopic repair of the sigmoid perforation and drainage of the intra-abdominal abscess. The postoperative course was uneventful and the patient was discharged 14 days after the operation. Relevant literature is reviewed in the reporting of this rare case.

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1. Case Report

A 60-year-old man presented to the emergency room with a 1-day complaint of progressive and constant pain caused by right groin swelling. He noted that he had had lower abdominal pain intermittently for 11 days. His medical history included hypertensive cardiovascular disease and diabetes mellitus without regular medical control, and a right inguinal hernia for > 10 years.

The patient’s physical examination revealed a markedly diminished general condition, including fever, tachypnea, tachycardia, and hypotension. The right inguinal mass exhibited tenderness and irreduction. Although his abdomen was soft with mild tenderness over the lower quadrant, the patient showed no signs of bowel obstruction. Laboratory studies revealed a glucose level of 376 mg/dL, a white blood cell count of 33.50 x 10^9/L, and a neutrophil content of 97.8%. A chest X-ray showed cardiomegaly with a suggestion of congestive heart failure.
A diagnosis of right incarcerated inguinal hernia was made, and an operation was scheduled. Through a right inguinal incision, the hernia sac was opened first, along with a segment of the colon, without strangulation; foul smells of turbid ascites were noted. A high ligation of the hernia sac was performed and Bassini’s repair was undertaken. Diagnostic laparoscopy was then performed through an umbilical incision. Sigmoid diverticulitis with a perforation, approximately 5 mm × 5 mm in size, near the incarceration site (Fig. 1) and fecal peritonitis with turbid ascites (approximately 100 mL) were found. Because of the patient’s poor oxygen saturation—tachycardia and hypotension were noted during the operation—only repair of the sigmoid perforation and drainage of the intra-abdominal abscess were performed. After the operation, the patient, on an endotracheal tube with a ventilator, was transferred to a surgical intensive care unit for further care.

The endotracheal tube was removed and the patient was transferred to a ward on the 4th postoperative day. The postoperative course was unremarkable. A pus culture was positive for Escherichia coli. The patient was discharged in a stable condition on the 14th day after the operation.

2. Discussion

Although inguinal hernia is a common diagnosis for patients presenting with a painful groin mass, other potentially dangerous diagnoses may mimic a groin hernia. A wide variety of pathological processes and diseases have been reported as atypical inguinal hernias because of their presentations.1 An inguinal mass without a clear small-bowel obstruction has the potential to serve as a sign of the progression of consequential intra-abdominal or even extra-abdominal diseases, which include undescended testis, lymphadenopathy, femoral hernia, femoral aneurysm, psoas abscess, saphena varix, lipoma of the spermatic cord, spermatocyte, and hydrocele of the canal of Nuck. Therefore, additional diagnoses are required.

According to suggestions on the BMJ Best Practice website of the British Medical Journal (http://bestpractice.bmj.com/best-practice/monograph/723/diagnosis/differential.html), scans, including ultrasound, computed tomography (CT), and magnetic resonance imaging, can be used to distinguish between these medical conditions. All of these imaging modalities enable distinguishing an undescended testis from an inguinal hernia. An ultrasound scan of the groin enables distinguishing a hernia on the basis of a sonogram that shows abnormal ballooning of the anteroposterior diameter of the inguinal canal; by contrast, sonograms show an internal echo in cases of lymphadenopathy. An ultrasound scan indicates a well-defined, cystic, and hypoechogenic mass in cases of hydrocele of the canal of Nuck. A Doppler or duplex ultrasound scan, which reveals blood flow, enables distinguishing a femoral artery aneurysm or saphena varix from an inguinal hernia. For psoas abscess, a magnetic resonance imaging or CT scan shows an abscess as an inflammatory mass within the psoas muscle. For lipoma of the spermatic cord, a CT scan shows fat in the inguinal canal.

Severe diseases, such as a hemorrhage from a leaking abdominal aortic aneurysm, pancreatic pseudocyst, and nongeneralized peritonitis may present as atypical inguinal hernia. Mucinous ascites and abscess arising from subcutaneous fungal infection and an infected hip prosthesis have been reported to be infectious etiologies. For female patients, endometriosis, ovarian cysts, Bartholin cysts, endometrial carcinoma, and leiomyoma of the round ligament could be the causes. In addition, inguinal hernia is often associated with urologic etiologies, including a hydrocele of the spermatic cord, spermatic cord sarcoma, spermatic vein thrombosis, inguinally located megaureter, and torsion of an undescended testis.1 Moreover, some neoplastic processes and lymphoreticular disease have been sporadically reported to present as inguinal hernias. These include non-Hodgkin’s lymphoma and Hodgkin’s disease, bladder cancer, a sarcoma arising in the inguinal canal, and metastatic carcinoma from the gastrointestinal tract, ovary, prostate, or mesothelium. Even an unretrieved gallstone following a laparoscopic cholecystectomy and the tracking of carbon dioxide and bile-stained irrigation fluid to the lower quadrant from a lateral laparoscopic trocar site have been confused with the presentation of an inguinal hernia.1 In conclusion, diagnosing an inguinal hernia may be complex, and diagnosis has often been determined during surgical groin exploration.

There have been a few reports of complicated diverticulitis that presented as a strangulated hernia in patients with a pre-existing inguinal hernia.2 Those conditions were analogous to Littre’s and Amyand’s hernias in which a Meckel’s diverticulum and an inflamed appendix are found in the hernia sac, respectively.3 Yahchouchy-Chouillard et al4 reported a case of transverse colon diverticulitis lodged in a left incarcerated inguinal hernia. The patient in this report represented a case of sigmoid colon diverticulitis, leading to right inguinal hernia incarceration.

Diverticulosis has become a common condition in developed countries, and its prevalence increases with age. Diverticulosis may occur anywhere in the gastrointestinal tract, with the sigmoid region accounting for >85% of the cases. Diverticulitis, an infection of the diverticula, can

Figure 1 Sigmoid diverticulitis with perforation, approximately 5 mm × 5 mm in size.
lead to hemorrhage, abscess, or fistula development, and bowel obstruction or perforation. Among these, fecal peritonitis is the most severe complication, carrying a mortality of 40–70%. The optimal management strategy for treating sigmoid diverticulitis with a perforation is Hartmann’s procedure. An attempt to suture a perforation because of a diverticular disease in the sigmoid colon is likely to fail, because the tissues are edematous and an established abscess cavity is often present as well. Thus, the chance that peritoneal contamination by fecal organisms occurs is considerably high. Mortality from oversewing a sigmoid perforation varies from 5% to 46%. There is also a high incidence of postoperative fistula following this procedure, with 19% in an Australian audit and 100% in Colcock’s series. We considered the unstable hemodynamic condition of the patient in our report, and he received a laparoscopic simple closure; his postoperative course was uneventful.

References