Preperitoneal Collection After Endoscopic Extraperitoneal Inguinal Hernioplasty in a Patient With Malignant Ascites

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ABSTRACT

Painful preperitoneal collection is a rare complication following endoscopic totally extraperitoneal inguinal hernioplasty. Here we present the case of a woman who underwent endoscopic extraperitoneal inguinal hernioplasty for a left inguinal hernia. Her past health was good. During the dissection of the extraperitoneal space, clear ascitic fluid was noted upon breaching the peritoneum near the round ligament. Endoscopic stapling was used to close the peritoneal tear, and the procedure was completed uneventfully. The patient complained of left iliac pain after the operation. A physical examination showed no swelling over the left iliac fossa. Contrast computed tomography of the abdomen revealed preperitoneal fluid collection over the hernioplasty site and a small amount of ascites. Expectant treatment with pain control by oral analgesics was adopted. A follow-up CT scan 4 months after the operation showed resolution of the preperitoneal fluid collection but with increased ascites. Abdominal paracentesis with peritoneal fluid for cytology analysis found adenocarcinoma cells. The patient succumbed to a terminal malignancy a year after surgery. Conversion of endoscopic extraperitoneal inguinal hernioplasty to open repair should be considered upon intraoperative discovery of ascites. Painful preperitoneal collection is a possible sequela following endoscopic extraperitoneal hernioplasty in patients with malignant ascites.

Key Words: Malignancy, Breast cancer, Inguinal herniorrhaphy, Complication.

INTRODUCTION

Endoscopic extraperitoneal inguinal hernioplasty has been gaining popularity worldwide. Groin collection is a known morbidity following endoscopic extraperitoneal inguinal hernioplasty, but painful preperitoneal collection is a rare complication. Here we present the case of a patient who developed a preperitoneal fluid collection after endoscopic hernioplasty and discuss the management strategies for the intraoperative discovery of ascites.

CASE REPORT

A 76-year-old woman experienced a left indirect inguinal hernia for 2 months. Apart from a history of hypertension for 20 years, her past health was good. Examination of the abdomen was unremarkable. The patient underwent elective endoscopic extraperitoneal inguinal hernioplasty. During the dissection of the extraperitoneal space, the peritoneum was breached near the round ligament. A small amount of clear ascitic fluid was discovered. Endoscopic stapling was used to close the peritoneal tear, and the operation was completed uneventfully.

During the early postoperative period, the patient complained of persistent left iliac pain. A physical examination showed no obvious swelling, but the left iliac fossa was dull on percussion. The patient was afebrile and her white cell count was normal. Ultrasonography revealed a cystic collection over the left iliac fossa. Conservative treatment with pain control by oral analgesics was adopted. Contrast computed tomography of the abdomen 6 weeks after the operation demonstrated a preperitoneal collection over the hernioplasty site (Figure 1). The left iliac pain gradually subsided. A follow-up CT scan 4 months after the operation showed resolution of the collection and significant deterioration of the ascites (Figure 2). The abdomen became grossly distended and required abdominal paracentesis. Peritoneal fluid gathered for cytopathology examination yielded adenocarcinoma cells, and a diagnosis of metastatic adenocarcinoma was reached. The primary site was suspected to arise from the breast because the patient developed lymphadenopathy of the left axilla with raised tumor marker, CA15.3, shortly before death.

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succumbed to a terminal malignancy a year after the endoscopic hernioplasty. The patient had no recurrence of herniation before her death.

**DISCUSSION**

Herniation has been reported as a possible presenting symptom of intraabdominal malignancy. Miller et al reported umbilical herniation as the initial presentation in 6 patients with ovarian cancer. An increase in the intraabdominal pressure caused by the malignant ascites could be the underlying cause of the development of inguinal hernias, particularly in patients with patent processus vaginalis. Weakening of abdominal muscles secondary to aging and wasting may also be a contributing factor.

The outcome of hernia repair in patients with malignant ascites has rarely been reported. Inguinal herniorrhaphy in cirrhotic patients with ascites has been a contentious issue for years. Increased risks of postoperative complications and recurrence are the main concerns. In patients with significant ascites, postoperative leakage of peritoneal fluid through the operative wound has been reported. Control of ascites is considered vital for the successful repair of hernias in patients with decompensated cirrhosis.

A peritoneal tear is a common event during endoscopic extraperitoneal inguinal hernioplasty. The incidence of peritoneal laceration exceeded 25% in most series. If a totally extraperitoneal approach had been maintained, the preperitoneal collection in the present patient might have been averted. However, in patients with peritoneal metastasis, the peritoneum could be adherent to the retroperitoneal structures. Upon breach of the peritoneum and detection of ascites, conversion of the endoscopic procedure to an open repair should be considered. Under normal circumstances, closure of the peritoneal defect is always preferred to avoid bowel adhesions and internal herniation. However, in the presence of ascites, leaving the peritoneal defect open may allow free drainage of ascitic fluid between the preperitoneal...
space and the peritoneal cavity and can possibly avoid the formation of preperitoneal collection.

The preperitoneal collection caused significant postoperative left iliac pain, which was likely to result from the distension of the limited extraperitoneal space. Postoperative collection also increases the risk of secondary infection. In the absence of signs of infection, aspiration is not advocated because of associated risks of bacterial contamination and mesh infection, necessitating subsequent graft removal. The mesh is also susceptible to displacement by the collection, particularly when a nonstapling technique is adopted.

Intraoperative encounter of unenvisaged ascites is a rare event during endoscopic extraperitoneal inguinal hernioplasty. The present report offers ways to improve the management strategies for similar scenarios in the future. First, conversion of the endoscopic approach to an open repair should be considered upon detection of ascites during endoscopic extraperitoneal hernioplasty. Alternatively, the breach of the peritoneum should be left open to allow free drainage between the 2 compartments. Second, ascitic fluid should be sent for cytology analysis, and the hernial sac excised for histologic examination. Third, a diagnostic laparoscopy should be considered to identify the cause of ascites before the conclusion of the procedure.

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