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Case Report

Richter's femoral hernia with spontaneous enterocutaneous fistula: a case report

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Abstract: Richter's hernia is rare and hard to diagnosis. We reported a male elder with Richter's hernia in the right femoral tube. It was firstly treated as lymphnoditis, and finally presented as enterocutaneous fistula. We performed wedge excision and suture of the ileum wall defect under laparoscopy, local debridement of the groin and repair for the femoral ring. He had the good recovery with regular follow-up.

Keywords: Richter's hernia, enterocutaneous fistula, femoral hernia, laparoscopy

Introduction

Partial enterocele, the eponymous Richter's hernia, is a kind of incarcerated or strangulated hernia, in which only part of the circumference of the intestine is entrapped in the hernia orifice. Richter's hernia is rare condition with atypical symptoms and signs, which lead to late diagnosis or misdiagnosis frequently.

Case report

A 77-year-old male patient visited outpatient with fluid discharge through the swelling in his right groin for 4 days. Twenty-four days ago, he found this swelling approximately 1 cm × 1 cm and appearing with no apparent inducement. Initially, it could retract by heavy press, and then it became big, firm, and irreducible mass without pain. A few days later, the overlying skin became hyperemic and edematous with local fever. He was diagnosed as lymphnoditis. At the 20th day, the swelling ruptured discharging some malodorous and clear fluid. Two days later, some purulent fluid discharged. Throughout the course, he neither nauseated nor vomited. He had no change of bowel habit, stomachache, or abdominal distension. He has no history of an inguinal hernia, and any type of surgical interventions. He had no hypertension, diabetes, hepatitis, or tuberculosis. Physical examination disclosed that his vital signs were normal and he was skinny with a bad state of nutrition. A hard mass was about 7 cm × 8 cm with no apparent tenderness in the right groin where the skin was reddened and slightly warmer than the surrounding region. In the lower extreme of this mass there was a peaked crater about 0.5 cm in diameter with the purulent discharge (**Figure 1A**). There were no other enlargements in the glandular areas or open lesions on the lower extremities. There were no signs of intestinal obstruction or those of peritoneal irritation. Pelvic CT showed a right inguinal hernia. The patient's initial blood parameters showed hemoglobin of 103 g/L, total leukocyte count 6.6 × 10^9/L, neutrophil 77.4%, CRP: 80.7 mg/L. Urea and electrolytes were within normal ranges. Total protein and albumin were 55.5 g/L and 31.8 g/L respectively. Acid-fast bacillus is negative. Secretion cultures indicated lactococcus lactis. He was diagnosed as enterocutaneous fistula secondary to spontaneous rupture.

The whole process for this patient was summarized as **Figure 2**. After admission, the patient was therapeutized with the antibiotics, TPN, and fully bowel preparation before the operation. To confirm the diagnosis and the state of

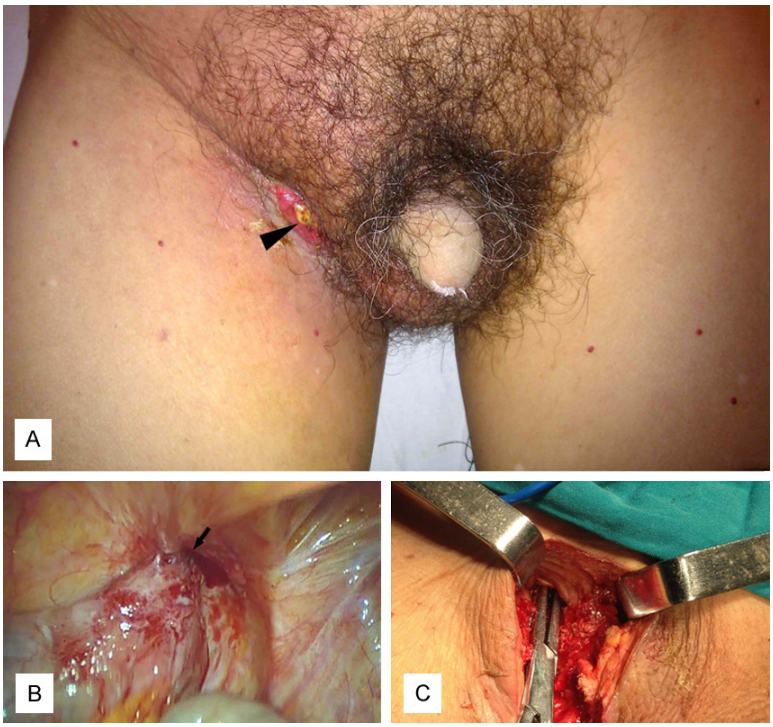

Figure 1. The representative gross pictures were showed. A: The ulcer in right groin with fistula. B: The part of bowel wall sticks to femoral. C: The defect of femoral canal.

the bowel, we performed laparoscopic exploration. It was found the intestinal wall partly entrapped into formal canal (**Figure 1B**). And we separated the adhesion, cleared margin of intestinal defect, and sutured the defect under laparoscopy. In right groin region the wound was extended upward to the inguinal ligament and below there is a defect about 1 cm × 1 cm (**Figure 1C**). The femoral canal was repaired with the inguinal ligament and pectineal ligament together. As there was cellulitis involving the inguinal region, it was laid opened and later on, daily cleaning and dressing was done. Secondary suture was done after 2 weeks, when the wound healed. The postoperation diagnosis was Richter's hernia with enterocutaneous fistula.

Discussion

The nomenclature "Richter's hernia" was firstly proposed in 1887 for Sir Richter's scientific description of this particular lesion by Frederick Treves [1], while the first report of this hernia was in 1606, described by Fabricius Hildanus. In the literature there are only occasional case reports or small retrospective cases published. The incidence of Richter's hernia among strangulated hernias is approximately 5-15% [2]. It may occur in any usual hernia site, especially some small and firm site, and any part of the intestinal tract may become incarcerated [3].

After the formation of Richter's hernia, there are several conditions as follows. Firstly some of Richter's hernia may induce an obstruction as ordinary incarcerated hernia [4, 5]. Obstruction is option to deal with this condition as early as possible, but it happen uncommonly. Our patient didn't have any signs of intestinal obstruction during the whole course, as the entrapped bowel wall was far less than two thirds of the circumference. The involved intestine wall will form perforation gradually with some unapparent local symptoms. If the intestine juice and necrotic tissue gradually encroach to the skin outside or the scrotum along the inguinal canal, there will be an enterocutaneous fistula or entero-scrotal fistula following the scrotum abscess [6, 7]. If they encroach to peritoneal cavity, it presents with peritonitis [8]. From the occurrence of necrosis to the formation of the fistula, there may be other complex complications such as necrotizing fasciitis [6, 7], or Fournier's gangrene [9]. And some of Richter's hernia coexist with body during life without the bowel necrosis or fistula [9].

The diagnosis of Richter's hernia is not easy. Most of the previous cases were confirmed during surgery. In addition to clinical history and careful physical examination, radiology may be helpful for the diagnosis. Instrumental examination could be omitted if Richter's hernia could not be considered in its early phase. So it is necessary for surgeons to keep in mind for the mass over the potential hernia ring.

Surgery is the only option for Richter's hernia. Laparotomy is usually necessary if perforation is suspected [3]. If the intestine is compromised and its viability is not for sure, then an

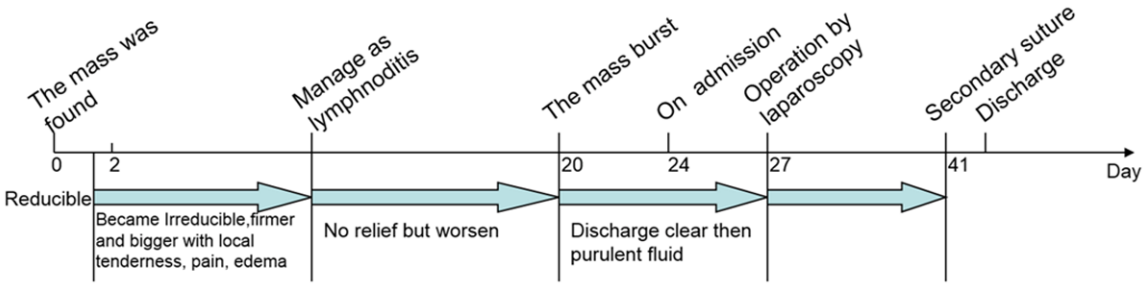

Figure 2. The whole process of the patient.

intestinal resection must be performed, while a wedge excision may be preferred [3]. The most of patients suffering the Richter's hernia are old. We did an exploratory laparoscopy instead of laparotomy, confirmed the diagnosis, and dealt with the entrapped intestinal tract. In the literature, there is only one report of laparoscopic approach to manage 94-year-old lady with Richter's hernia [10]. We suggest an exploratory laparoscopy as the first choice when the diagnosis is not sure. Enterocutaneous fistula must be resected and, a two-stage approach may be preferred for the patients with severe inflammation of the surrounding tissue. The stable enterocutaneous fistula without other acute symptoms should get a good preparation before surgery to enhance tolerance for operation and reduce the risk of septic shock, which is the main cause of death of Richter's hernia after operation [3]. Furthermore enterocutaneous fistula may close spontaneously as the case reported by Fabricius Hildanus, which last about two months. However, the fistula may recur without further management [11].

In conclusion, Richter's hernia is easy to be misdiagnosed and delayed on clinic. Exploratory laparoscopy could help in management of Richter's hernia in proper situations.

Disclosure of conflict of interest

None.

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