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Case Report

A rare Complication of the Meckel Diverticulum: Littre Hernia Causing Necrotizing Fasciitis, A Case Report

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Abstract: Littre hernia is found in any hernia sac of Meckel diverticulum.The presence of the Meckel diverticulum in the femoral canal is a very rare condition and usually with incarceration.Abscess, necrosis often develops. Significant difficulties are encountered in the treatment of complicated Littre hernia. In this case report treatment of complicated Littre hernia with perforated and necrotizing fasciitis with negative pressure closure set was presented.
Keywords: Littre hernia, necrotizing fasciitis, negative pressure wound therapy.

INTRODUCTION

Meckel's diverticulum is the most common congenital abnormality of gastrointestinal tract. It develops from the incomplete regression of omphalomesenteric duct. The Meckel's diverticulum is seen in 1-3% of the general population. The risk of complications are between 4-16% and more frequent in males. The main complications are bleeding, ectopic gastric ulceration and obstruction. A rare complication (11%) is the herniation of the Meckel diverticulum, which is known as Littre hernia. The main treatment is resection of Meckel diverticulum and then repair of the defect with surgical techniques. In patients with complications such as perforation, and necrotizan fasciitis, preferred method to close the defect is still controversial [1,2]. In this case report of a 81-year-old female, we present the management of complications of Littre hernia, necrotizan faciitis and perforation by using negative pressure vacuum therapy.

CASE REPORT

A 81-year-old woman was admitted to our emergency department with complaints of pain in the left groin and malodorous flow. In her history, the swelling in the left groin occurred 1 year ago and occasionally disappeared. Patient stated that her swelling reappeared 3 days prior and did not disappear again. She applied to the emergency department with redness, pain and malodorous flow in the same area. In the abdominal examination, there was no tenderness or rebound but we found a mass of approximately 4x5 cm under the left inguinal ligament. The skin on the mass was necrotic. In the laboratory tests performed, leykocyte count was 26,0000 UL, CRP was 204 mg/l. Other biochemical tests were normal. There was no pathological finding in direct abdominal x-ray. Abdominal CT scan demonstrated a left femoral hernia. We thought strangulated femoral hernia and proceeded emergency operation. An incision was made in the left femoral region to cover the necrotic tissues and the hernial contents were reached (Figure 1A). It was observed that necrosis and perforation developed in the small intestine inside the hernia sac. Dissection could not be continued due to intense adhesions and necrotic tissues. Therefore we applied midline laparotomy. At the exposition, it was observed that the Meckel diverticulum entered the femoral canal, there was no intestine under hernia conditions and the passage continued. It was also found that the intestinal tract adhered to the femoral canal and prevented contamination into the abdomen (Figure 1B). Ileal segments and Meckel's diverticulum were removed from the femoral canal (Figure 1C). The Meckel diverticulum was excised and created ileoileal anastmosis. Necrotizing fasciitis areas were debrided until healthy tissue was seen. Defect was closed using a negative pressure wound therapy system. (Figure 1D). The system was changed every three days. Thereafter the granulation tissue developed and the defect closed. The patient was discharged from hospital on the 12th postoperative day without any complication.

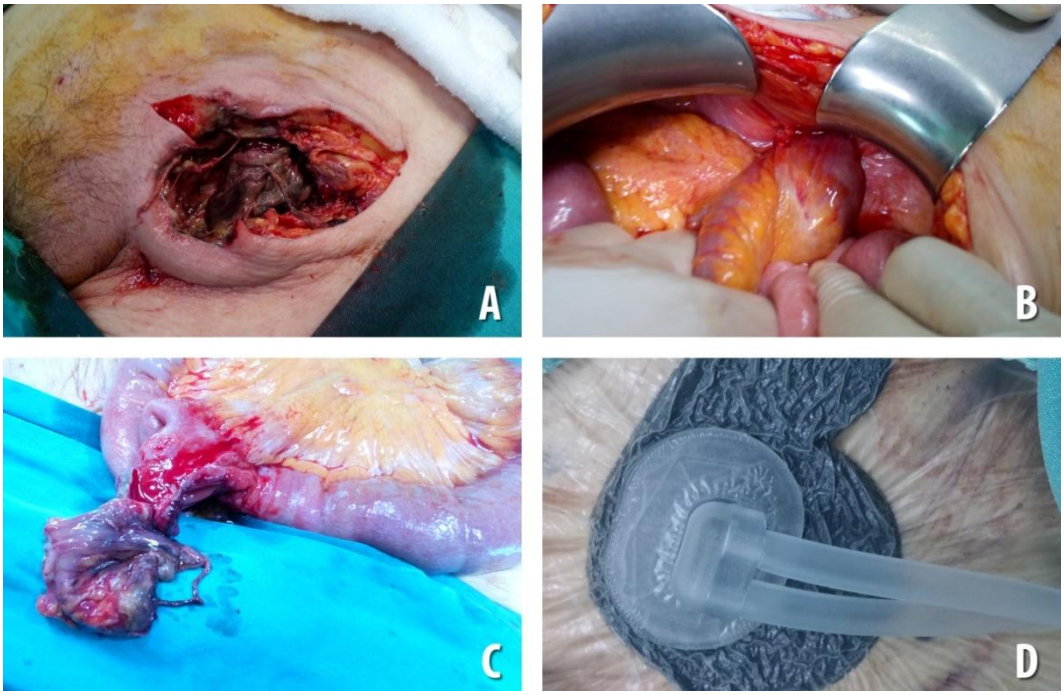

Fig 1-A, B, C, D:
A. Necrosis and perforation developed in the small intestine inside the hernia sac.
B. Intraoperative view of the Meckel diverticulum, which has been entering in the femoral canal
C. Dissected necrosed and perforated Meckel's diverticulum removed from the left femoral canal
D. Closed defect by using a negative pressure wound therapy kit.

DISCUSSION

The Littre hernia was first described by Alexis Littre in the 1700s as the presence of the Meckel diverticulum in the femoral canal. Nowadays it is used to describe the presence of meckel diverticulum in any herny sac. Littre hernia is more common in females and right inguinal area due to the presence of diverticula in the terminal ileum. Although the regional frequency is known to be inguinal (50%), umbilical (20%) and femoral (10%) some studies have reported that Littre hernia is more common in the femoral canal than the inguinal canal . Complications include inflammation, ischemia, necrosis and perforation [2,3]. It may cause complete or near complete small bowel obstruction in many cases, but there can also be some exceptions as seen in our case. Most symptomatic patients present with swelling, pain and redness in the herniated area. As its diagnosis by preoperative CT or USG is very rare, it is very difficult to make a preoperative diagnosis of a Littre hernia.Usually only secondary changes can be detected with imaging methods. In our case, we were able to detect hernia with preoperative CT. The commonly accepted treatment method is wedge resection of Meckel diverticulum and repair of the ileum[2,4]. If the diverticulum is excessively edematous or perforation is present ; it can be repaired after resection and anastomosis. In our case, ligaments and tissues in the region were necrotic. Laparotomy was performed as intestines were not possible to remove from the defect. Hernia could not be repaired due to extensive necrosis of the ligament, skin and subcutaneous tissues .The necrotic Meckel diverticulum and affected bowel segment were resected and anastomosis was done. After adequate debridement, the wound on the femoral region was closed with a negative pressure closure set. This therapy set is based on sterile closure of the wound and continuous or intermittent negative pressure application. This approach accelerates the development of granulation tissue reducing edema by increasing local blood flow and routinely used in treatment of open wound [5]. Although there are wide range of applications, there is not any previous report on the improvement of complicated femoral hernia with negative pressure wound closure set . With this case report we successfully showed that negative pressure closure therapy can be used to treat complicated inguinal hernia patients with necrotizing fasciitis. The authors declare that there is no conflict of interest in this study.

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