

Case Report

A Rare Case of Meckel's Diverticulum in an Incarcerated Direct Inguinal Hernia

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Abstract: Littre's hernia is a rare finding consisting of a Meckel's diverticulum inside hernia sac. Clinically, it is indistinguishable from a hernia involving small bowel and therefore may be difficult to diagnose pre-operatively. We are reporting a case of direct inguinal hernia involving Meckel's diverticulum measuring 4 cm in length. The diverticulum along with gangrenous ileal segment was resected and end to end anastomosis done with single layered suturing the hernia was repaired without complication. Meckel's diverticulum is an embryologic remnant of the vitelline duct occurring in 1–3% of the adult population with an estimated 4% becoming complicated and presenting with intestinal obstruction, infection, bleeding or herniation. Surgical resection is the recommended treatment for any Meckel's diverticulum causing symptoms. In the case of a Littre's hernia, resection of the diverticulum should be followed by repair of the fascial defect in a standard fashion. Littre's hernia, although rare, should be a consideration at the time of repair for any abdominal hernia involving small bowel as resection of the Meckel's diverticulum is critical in avoiding recurrent complications. Definitive treatment includes surgical resection of the diverticulum followed by a standard repair of the inguinal hernia.

Keywords: Meckel's diverticulum, hernia

INTRODUCTION:

A Littre's hernia is any hernia containing Meckel's diverticulum, and was described by the French surgeon Alexis Littre in 1700. He described 3 cases from cadaverous studies of incarcerated femoral hernias containing a diverticulum of the small bowel. Meckel's diverticulum is an embryologic remnant of the vitelline duct with an average length of 3 cm and an occurrence rate of 1–3% in the adult population [11]. In an estimated 4% of cases, medical or surgical intervention is required to treat complications involving Meckel's diverticulum such as bowel obstruction, diverticulitis, hemorrhage and rarely, hernias containing a Meckel's diverticulum (Littre's Hernia) [2]. We present a case of a 60 year-old patient with an incarcerated direct inguinal hernia containing Meckel's diverticulum identified during operative treatment and provide a review of the treatment options.

Presentation of case

A 60 old previously healthy person presented to the Emergency Department with progressive pain in the left groin over the past 7 days. He noticed a swelling

in left inguinal region since 20 years which was not associated with any complaints till past one week. Swelling was associated with pain, redness and local rise of temperature. He had no history of previous abdominal surgeries

Abdominal examination revealed an obvious, soft and painful mass in the left groin. It was non-pulsatile and not reducible. The abdomen was mildly distended and tympanic on percussion without any signs of peritonitis. Examination of the scrotum was unremarkable.

Diagnosis of an incarcerated inguinal hernia was made. Ultrasonogram of abdomen showed left inguinal hernia which obstructed and erect x-ray abdomen was revealed multiple air fluid levels suggesting bowel obstruction. Inguinal incision was taken which was later converted into lower paramedian incision. A large direct hernia sac was dissected revealing a Meckel's diverticulum approximately 4 cm in length which was incarcerated and its apex was necrosed .(images added).There was a posterior wall

defect of 2×1 cm through which herniation of Meckels diverticulum occurred. There was no defect or communication with deep inguinal ring.

The diverticulum with gangrenous segment was resected and primary anastomosis was done. The

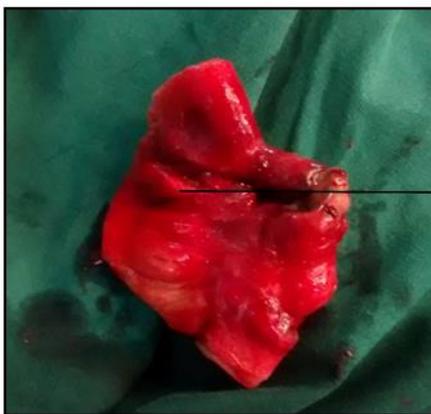
hernial sac was excised and posterior wall repaired and left orchidectomy done. Intraoperative and post-operative events were without any complications. Patient was discharged on postoperative day 7.



Defect in posterior wall



Incarcerated Meckels diverticulum with necrosed tip



Resected segment of incarcerated Meckels

DISCUSSION

Meckel's diverticulum is a true diverticulum in that it contains all tissue layers of the bowel. Although variable, it is most commonly located proximal to the

ileocecal junction at a distance between 60 and 100 cm [3, 4]. Rarely, a large Meckel's diverticulum can be involved in abdominal, femoral and inguinal hernias

(Littre's hernia) with approximately half of all Littre's hernias involving the inguinal canal [5, 6].

Clinically, a distinction between the involvements of a small bowel loop versus a Meckel's diverticulum in an inguinal hernia cannot be made and thus the diagnosis of a Littre's hernia is often in the perioperative period. However, the signs and symptoms of an incarcerated Meckel's diverticulum on presentation are thought to progress slower than a hernia involving small bowel [5].

The treatment of symptomatic Meckel's diverticulum including incarceration in an inguinal hernia is surgical resection. According to Dunn and Markgraf, resection of the involved diverticulum is recommended because of the possibility of ectopic mucosa being present, and the increased likelihood of complications due to bleeding [7]. Others recommend surgical resection because of its effectiveness for immediate symptom management and the high probability of symptomatic recurrence should the diverticulum remain [8, 9].

The techniques for surgical resection of Meckel's diverticulum include by simple diverticulectomy using a linear GI stapler or by segmental resection of the involved small bowel and primary anastomosis. In situations of perforation, bowel ischemia or where the presence ectopic tissue is definitive, resection and small bowel anastomosis is recommended [8]. Traditional methods of repair for the inguinal hernia should be undertaken after resection of the Meckel's diverticulum. Generally, the repair is uncomplicated by removal of the Meckel's diverticulum however, a theoretical increased risk of infection at the hernia site must be considered [10].

CONCLUSION

Here we present a case of a Littre's hernia involving the left inguinal canal with Meckel's diverticulum of 4 cm in length protruding through posterior wall defect. Littre's hernia, although rare, should be a consideration at the time of repair for any abdominal hernia involving small bowel as resection of the Meckel's diverticulum is critical in avoiding recurrent complications. Definitive treatment includes surgical resection of the diverticulum followed by a standard repair of the inguinal hernia.

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