A large incarcerated Meckel's diverticulum in an inguinal hernia

Michael J. Horkoff, Nathan G. Chan Smyth, James M. Hunter

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ABSTRACT

INTRODUCTION: Littre's hernia is a rare finding consisting of a Meckel's diverticulum inside of a hernia sac. Clinically, it is indistinguishable from a hernia involving small bowel and therefore may be difficult to diagnose pre-operatively.

PRESENTATION OF CASE: We report a case of an inguinal hernia involving an unusually large Meckel's diverticulum measuring 15 cm in length. The diverticulum was resected using a linear GI staple and the hernia was repaired without complication.

DISCUSSION: 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.

CONCLUSION: 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.

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1. Introduction

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. 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). We present a case of a 54-year-old healthy gentleman with an incarcerated inguinal hernia containing a large Meckel's diverticulum identified during operative treatment and provide a review of the treatment options.

2. Presentation of case

A 54-year-old previously healthy gentleman presented to the Emergency Department with progressive pain in the right groin and scrotum over the past day. He had no associated nausea or vomiting and was afebrile. He had had normal bowel movements and was not acutely obstructed. He had been previously diagnosed with a right inguinal hernia and was awaiting elective operative repair. He had no history of previous abdominal surgeries.

Abdominal examination revealed an obvious, soft and painful mass in the right groin. It was non-pulsatile and not reducible. Clear exaggeration of the mass was seen when the patient was asked to cough. The abdomen was mildly distended and tympanic to percussion without any signs of peritonitis. Examination of the scrotum was unremarkable.

A diagnosis of an incarcerated inguinal hernia was made. No imaging or laboratory studies were required. A large indirect hernia sac was dissected revealing a Meckel's diverticulum approximately 15 cm in length (Fig. 1). A small amount of necrotic adipose tissue and purulent material was present. A simple diverticulectomy using a linear GI staple was done and a Lichtenstein tension-free mesh repair was used to close the inguinal defect. The patient recovered without complication and was discharged the following day. He was seen in follow up 7 days later and remained well.

3. 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 ileocolic junction at a distance between 60 and 100 cm. Rarely, a large Meckel's diverticulum can be involved in abdominal, femoral and inguinal hernias (Littre's...
being present, and the increased likelihood of complications due to bleeding. 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. To our knowledge, no studies exist comparing the outcomes of these two techniques directly. 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

4. Conclusion

Here we present a case of a Littre’s hernia involving the right inguinal canal with an unusually large Meckel’s diverticulum of 15 cm in length. Definitive treatment includes surgical resection of the diverticulum followed by a standard repair of the inguinal hernia.

Conflict of interest

None.

Funding

None.

Ethical approval

Written consent was obtained prior to the submission of this manuscript

Author contributions

Michael Horkoff was involved in patient care and writing of the manuscript.

Nathan Chan Smyth was involved in writing the manuscript.

Dr. James Hunter was the Surgeon and most responsible physician in the patient’s care and was involved in writing the manuscript.

Key learning points

• Surgical resection is the recommended treatment of a Meckel’s diverticulum found within a hernia sac.
• No studies exist comparing the outcomes from a simple diverticulectomy versus segmental resection and primary anastomosis when removing a Meckel’s diverticulum however, segmental resection is recommended in complicated cases.

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