

## CASE REPORT

### AN UNUSUAL CASE OF SMALL BOWEL OBSTRUCTION DUE TO INCARCERATED LITTRE'S HERNIA: A CASE REPORT

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**ABSTRACT:** Littre's hernia is a rare finding consisting of a Meckel's diverticulum inside a hernia sac. Clinically, it is indistinguishable from a hernia involving small bowel and therefore may be difficult to diagnose pre-operatively. We report a case of an incarcerated right inguinal hernia involving a Meckel's diverticulum. The diverticulum was resected, bowel anastomosis done and the hernia was repaired without complication.

**KEYWORDS:** Meckel's diverticulum, Littre's hernia, Inguinal hernia.

**INTRODUCTION:** Meckel's diverticulum is an embryologic remnant of the vitelline duct with an average length of three cm and an occurrence rate of 1–3% in the adult population.<sup>[1]</sup> 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).<sup>[2]</sup>

Despite the availability and wide use of modern imaging techniques, the diagnosis of Meckel's diverticulum remains elusive.<sup>[3]</sup> We herein present an infrequent complication, incarcerated Meckel's in deep inguinal ring (Littre's Hernia) that only became evident during surgery.

**CASE REPORT:** A 40 yrs old male was admitted with complaints of diffuse abdominal pain, vomiting since four days and constipation since two days. There was no history of fever. He did not undergo any previous surgery. There was no history of previous similar complaints. On examination, he had tachycardia and was normotensive. Abdominal examination revealed an irreducible, tender swelling in the right groin. It was non-pulsatile and not reducible. The abdomen was mildly distended and tympanic to percussion without any signs of peritonitis. Examination of the scrotum was unremarkable. Bowel sounds were absent. Complete blood counts revealed leucocytosis, other routine blood and urine investigations being within normal limits. X-ray erect abdomen showed multiple air fluid levels suggestive of intestinal obstruction (Figure 1). Ultrasound abdomen was suggestive of intestinal obstruction.

A diagnosis of incarcerated right inguinal hernia was made. An indirect hernia sac was dissected revealing a gangrenous Meckel's diverticulum (Figure 2 and 3). Meckel's diverticulum was resected, end to end bowel anastomosis was done and Lichtenstein tension free mesh repair was done to close the inguinal defect. The patient recovered without complication and was discharged on day three. He was seen in follow up seven days later and remained well.

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**DISCUSSION:** In 1700, Alexis Littre (1658-17265), a French surgeon was the first to report three cases of incarcerated femoral hernia containing a small bowel diverticulum. Since then hernia sacs containing only Meckel's diverticulum have been called Littre's hernia.<sup>[4]</sup>

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.<sup>[5,6]</sup>

It is the result of a persisting vitello intestinal duct that normally disappears by the 5th to 7th week of intrauterine life. When it persists it can result in a number of diverse anomalies like entero-umbilical fistula, umbilical sinus, persistent fibrous cord, mesodiverticular vascular band, omphalomesenteric duct cyst, strawberry umbilical tumor.<sup>[4,7]</sup>

Rarely, a large Meckel's diverticulum can be involved in abdominal, femoral and inguinal hernias (Litters hernia) with approximately half of all Littre's hernias involving the inguinal canal. <sup>[8]</sup> Clinically, a distinction between the involvement 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 made 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.<sup>[8]</sup>

Heterotopic tissue of gastric, duodenal, pancreatic, or colonic morphology in a Meckel's has been reported to occur in 6 to 17%.<sup>[9]</sup> The literature is replete with reports of complications related to Meckel's diverticulum like haemorrhage, obstruction, diverticulitis, umbilico-enteric fistula, Perforation, intussusception, foreign bodies, neoplasia-benign or malignant, peptic ulceration, Littre's hernia.<sup>[4,7]</sup>

Factors associated with a higher risk of complications include; male sex, age below 40, diverticulum more than two cm in length or with a narrow neck, the presence of heterotopic mucosa, or the existence of a diverticular band.<sup>[4,7]</sup>

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.<sup>[10]</sup> Others recommend surgical resection because of its effectiveness for immediate symptom management and the high probability of symptomatic recurrence should the diverticulum remain.<sup>[11]</sup>

The techniques for surgical resection of Meckel's diverticulum include 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.<sup>[11]</sup> 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.<sup>[12]</sup>

**CONCLUSION:** Although Meckel's diverticulum is a common congenital abnormality of the gastrointestinal tract, it is often difficult to diagnose. The complications of Meckel's diverticulum should be kept in mind in the differential diagnosis of small bowel obstruction.

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**Fig. 1: Showing x-ray showing small bowel obstruction**



**Fig. 2: Showing meckel's diverticulum**

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**Fig. 3: Showing Meckels diverticulum and normal small bowel**

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