

Combined Littre and Richter's femoral hernia: an extremely rare intra-operative finding

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SUMMARY: Combined Littre and Richter's femoral hernia: an extremely rare intra-operative finding.

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Littre hernia is defined as the herniation of a Meckel's diverticulum, while Richter's hernia is the herniation of a portion of the bowel wall. An extremely rare case of a combined Littre and Richter's femoral hernia is reported. An 82-year-old male presented at the emergency department with a painful golf ball-like mass at the right inguino-

moral region. With the diagnosis of incarcerated femoral hernia, he was urgently taken to the operating room. Intraoperatively, an incarcerated Littre, as well as a Richter's hernia were revealed. Enterectomy and side-to-side small bowel anastomosis were performed. The patient made an uneventful recovery. To the best of our knowledge, the present is the first report of a combined Littre and Richter's femoral hernia. Such findings should be reported to raise the awareness of surgeons for complicated cases. It is of utmost importance to have a high suspicion index for strangulated hernias, to minimize the time between admission and surgery.

KEY WORDS: Richter's hernia - Littre hernia - Femoral strangulated hernia.

Introduction

Littre hernia is defined as the herniation of a Meckel's diverticulum, while Richter's hernia is the herniation of a portion of the bowel wall (1, 2). Littre hernia is extremely rare with only about 50 reports in the literature (2). Anatomically, Littre hernia may involve the inner groin (inguinal), the outer groin (femoral), as well as the belly button (2, 3). Richter's hernia is related to prompt onset of gangrene and a relative high mortality rate (4). An extremely rare case of a combined incarcerated Littre and Richter's femoral hernia in an 82-year old male is described.

Case presentation

An 82-year-old male presented at the emergency department with a painful golf ball-like mass at the

right inguino-femoral region. His medical history was significant for hypertension, atrial fibrillation and smoking. He first noted the mass 2 days ago, but it became extremely painful approximately 5 hours before admission. The patient was stable (blood pressure = 135/95 mmHg, heart rate= 88 beats per min, SpO₂= 99%) and afebrile, while the clinical examination showed normal bowel movements and no signs of ileus. Laboratory findings revealed white blood cell count= 13600/mm³, with the rest findings within normal limits, while the abdominal X-ray had no signs of bowel obstruction.

Based on clinical examination, incarcerated femoral hernia was diagnosed. The patient was urgently transferred to the operating room and under general anaesthesia, an incision over the mass was made. A femoral hernia sac containing ischemic intra-abdominal organs was discovered. After carefully opening the hernia sac, an incarcerated Littre, as well as a Richter's hernia were revealed, as shown in Figure 1. Enterectomy and side-to-side small bowel anastomosis using mechanical staplers was performed (Figure 2). The anastomosis was then re-inserted into the peritoneal cavity. The abdominal

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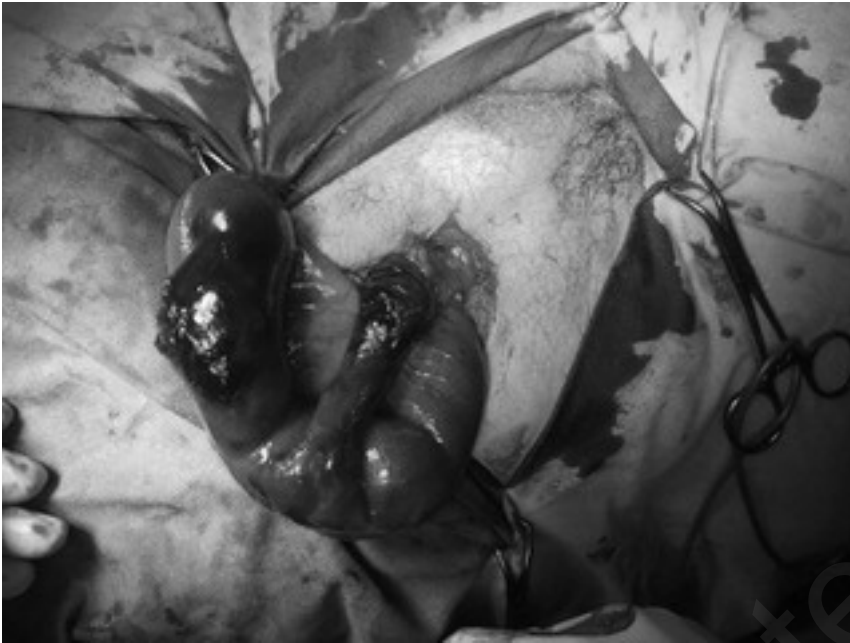


Figure 1 - Intra-operative finding of concurrent Littre and Richter's hernia after opening the femoral hernia sac.

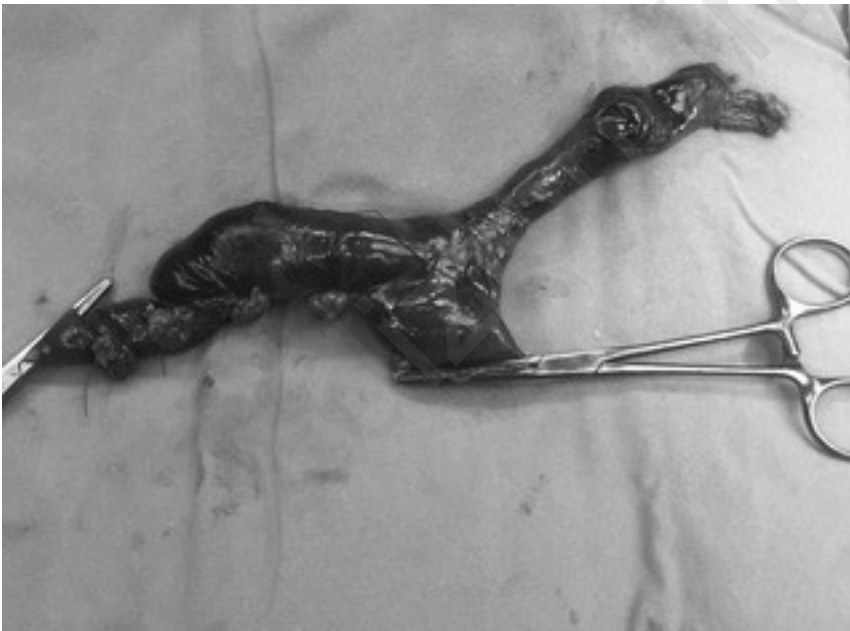


Figure 2 - Specimen. Strangulated part of small intestine along with Meckel's diverticulum.

wall defect, in this case the femoral ring, was closed with interrupted nylon 3.0 sutures, with extreme care in order not to traumatize the femoral vein.

The patient had an uneventful recovery and was discharged on the 6th postoperative day. The laboratory findings were within normal limits at that point, while no complications from the surgical trauma were noticed. Sutures were removed on the 15th postoperative day at the out-patient clinic. He

was followed up a whole year with no signs or symptoms of a disease.

Discussion

Littré (1700) reported femoral hernias containing small bowel diverticulum, while in 1785 Richter defined Littre hernia as the protrusion of Meckel diver-

ticulum through a potential abdominal opening. In Richter's hernia a portion of the bowel wall is strangulated in a hernia sac. In 1897 F. Treves distinguished the difference between the two (1, 2).

Meckel's diverticulum is present in around 3% of population and only 1% of those will suffer from Littre hernia (5). The most common site of this type of hernias is the right inguinal canal, while the femoral ring is the region with the highest chance for strangulation (6, 7). Since its description, only about 50 cases of Littre hernias have been described (2). The condition is usually without symptomatology. However, in adults the most common complication is bowel obstruction followed by inflammation and bleeding, while in children the most common complication is gastrointestinal bleeding caused by ulceration due to the acid secretion by ectopic gastric mucosa (2, 8).

Richter's hernia accounts for 10% of all strangulated hernias. Most commonly the distal ileum is entrapped and the preferred surgical repair is the preperitoneal approach, followed by laparotomy and resection if bowel's ischemia is irreversible (1). Richter's hernia represents a high-risk condition, typically diagnosed in a delayed manner due to a lack of obvious symptoms, most frequently occurring in elderly women (9, 10). It has a high risk of strangulation and has been most commonly observed in the femoral ring and at trocar sites after laparoscopic procedures (10, 11).

In the true Littre hernia, only the Meckel's diverticulum is present in the hernia sac. Otherwise, if there are any more intra-abdominal organs in the hernia sac, then the hernia is a mixed Littre hernia (7). In the reported patient, part of the small intestine participated in the hernia sac.

To the best of our knowledge a combined Littre and Richter's femoral hernia has not yet been reported. Due to the rarity of such a pathology it is extremely difficult to diagnose or even suspect the combined entity of Littre and Richter's hernia with clinical examination. However, it should be highlighted that since Richter's hernia is related to prompt onset of gangrene and a relative high mortality rate (2, 3), high index of suspicion for at least Richter's hernia, especially in cases with risk factors, such as previous surgeries, could minimize delay in diagnosis and lead to better outcomes (12).

Although Littre hernia, traditionally, had not been associated to high mortality rate, there have been reports indicating that congenital gastrointesti-

nal anomalies may rarely play a significant role in terminal episodes among elderly (13). Therefore, Littre hernia should also not be taken lightly.

Femoral hernias are more common in women and have a relative high rate of strangulation (reported up to 60% of cases) (14). High suspicion of strangulation should prohibit watchful waiting, as well as manipulation of the hernia. In the present patient the diagnosis of strangulated femoral hernia was made at the emergency department and he was directly taken into the operating room.

Conclusion

Littre with a concurrent Richter's hernia in a strangulated femoral hernia sac, is an extremely rare intra-operative finding. Such findings should be reported to raise the awareness of surgeons for complicated cases. In the present case an enterectomy was required, which could be performed through the inguinal incision. In cases that such enterectomies are technically unfeasible or unsafe, laparotomy is proposed. It is of utmost importance for the physician to have a high suspicion index for strangulated hernias, to minimize the time between admission and surgery.

Disclosure of interest

The Authors report no conflict of interest.

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Authors' contributions

CK, AI for the literature search and analysis, and manuscript writing. IK and GV for the final manuscript revision. All authors have read and approved the final manuscript.

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