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Case Report

Intestinal obstruction due to incarcerated Meckel's diverticulum (Littre's hernia)

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ABSTRACT

Meckel's diverticulum is the most common malformation of the gastrointestinal tract. Femoral hernia is the second most common inguinal hernia, and is characterized by incarceration and strangulation. We present a case of 90-year-old woman with strangulation of Meckel's diverticulum in a left-sided femoral hernia. The diverticulum was resected and hernia was repaired without complications. A Littre's hernia is a complication of Meckel's diverticulum and it is a result of its protrusion through a herniary orifice. Surgical resection is recommended for this type of hernia due to possible vascular complications, intestinal obstruction and herniation. Although usually Littre's hernia appears in the early ages of the life, we must not ignore their possible appearance in people who are aged. We present in this case a Littre's hernia in a very old woman.

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Introduction

The anomalies in the development of the digestive tract can give rise to congenital alterations that appear in advanced adulthood. Meckel's diverticulum is the most common malformation of the gastrointestinal tract and is present in approximately 2% of the population [1]. Although Johann Friedrich Meckel was who described the embryological origin of this type of diverticulum in 1809, it was first described by Fabricius Hildanus in the sixteenth century. This anomaly is due to the incomplete obliteration of the omphalomesenteric duct during the 7th week of gestation [2]. In the fetal life, the omphalomesenteric duct connects the yolk sac to the intestinal tract and usually it obliterates in the 5th to 7th week of life. If obliteration fails, the congenital anomalies develop, leading to Meckel's diverticulum. A hernia containing Meckel's diverticulum is called a Littre's Hernia. French physician and anatomist Alexis de Littre (1700) reported ileal diverticula and attributed them to traction [3].

Case Report

A 90-year-old woman with a history of Alzheimer's disease with a 4-day

history of progressive pain in the lower abdomen, without previous abdominal surgeries, presented to the Hospital Emergency Department. The patient lives in an old people's home. Physical examination revealed generalized defense to abdominal examination and a tumor irreducible in the left inguinofemoral region with trophic changes in the skin (Figure 1). Radiological analysis was indicative of intestinal obstruction; Routine blood tests showed leukocytosis (elevated neutrophils). The diagnostic judgment was intestinal obstruction secondary to an incarcerated femoral hernia. Urgent surgical procedure was decided. Under general anesthesia, a midline laparotomy was performed, in which an incarcerated hernia was found in the left femoral orifice, containing a large Meckel's diverticulum (Littre's Hernia) with part of the mesentery (Figure 2). Due to the proximity of the ileocecal valve, it was decided to perform an extended resection to a right hemicolectomy, with anastomosis. The hernia was repaired using a preperitoneal prosthesis following the Nyhus technique [4]. Patient's evolution was satisfactory, being discharged in a week with restoration of the transit and good healing of the wound.

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Figure 1: Tumor in the left inguino-femoral region. Abdomen slightly distended.



Figure 2: Intraoperative image: Necrosis of the terminal ileum with Meckel's diverticulum incarcerated as the origin of hernia content.

Discussion

The Meckel diverticulum is a true diverticulum that includes all three coats of the small intestine. Generally, ranges from 1 to 12 cm in length and is found 45-90 cm proximal to the ileocecal valve. The most frequent complications in the adults are: obstruction due to the intussusception or adhesive band (14%-53%); ulceration (<4%); diverticulitis; perforation [1]. A Littre hernia is a rare complication of Meckel's diverticulum and it is a result of its protrusion through a herniary orifice. Its incidence is

yet unknown, but is reported that 1% of patients having a Meckel diverticulum will develop a Littre hernia. Littre hernias are usually presented as inguinal, femoral and umbilical hernias [5]. However, studies include a higher incidence of femoral hernias than inguinal, 39.6% and 34% of the cases, respectively [3]. Although Meckel's diverticulum is more frequently encountered in men, Littre hernias occur more often in women. More specifically, studies reported 39.6% males and 60.4% females with a mean age of 60 [3]. In our case, the patient was of a very high age (90 years). According to other authors, resection of the involved diverticulum is recommended due to the possibility of presence of ectopic mucosa and an increase in bleeding complications [6, 7]. Incarceration of femoral hernia is also a potentially life-threatening complication [8, 9].

Conclusion

Meckel's diverticulum is the most frequent congenital malformation of the gastrointestinal tract. The knowledge of the embryology of the digestive tract is fundamental for the understanding of this alteration of the development, which could potentially result to pathologies and complications, that although usually they appear in the early ages of the life, we must not ignore their possible appearance in people who are aged. We present in this case a Littre's hernia in a very old woman.

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