

Case Report



Littre Hernia: A Very Rare Complication Of The Meckel Diverticulum

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ABSTRACT

Meckel diverticulum is the most common congenital anomaly of the gastrointestinal tract, occurring in 2-3 % of the population. It results from improper closure and absorption of the omphalomesenteric duct. The most common complications are obstruction of the small intestine, hemorrhage and diverticulitis. Meckel diverticulum can also be part of the contents of Littre hernia. We report a very rare case of Littre hernia which is a complication of Meckel diverticulum and presented with an irreducible mass in left inguinal site diagnosed preoperatively as incarcerated inguinal hernia. ©2008, Fırat University, Medical Faculty.

Key words: Meckel diverticulum, complication, Littre hernia.

ÖZET

Meckel divertikülünün oldukça nadir bir komplikasyonu: Littre fitiği

Meckel divertikülü toplumun %2-3'ünde görülen gastrointestinal sistemin en sık doğumsal anomalisidir. Omfalomezenterik kanalın yanlış kapanması ve absorpsiyon kusuruna bağlı olarak gelişir. En sık komplikasyonları ince barsak tıkanıklığı, kanama ve divertiküldür. Meckel divertikülü ayrıca Littre fitiği şeklinde karşımıza çıkabilir. Bu olgu sunumunda kliniğimize sol inguinal bölgede redükte edilemeyen kitle ile başvuran ve inkarsere kasık fitiği düşünülerek opere edilen nadir bir Meckel divertikülü komplikasyonu olan Littre fitiğini sunuyoruz. ©2008, Fırat Üniversitesi, Tıp Fakültesi

Anahtar kelimeler: Meckel divertikülü, komplikasyon, Littre fitiği

Meckel diverticulum is the most common congenital anomaly of the gastrointestinal tract, occurring in 2-3 % of the population (1). Originally described in 1809 by the Johann Friedrich Meckel. It is a developmental anomaly of the small intestine which results from incomplete closure and absorption of the omphalomesenteric duct containing all layers of the gut wall (2). Meckel diverticulum often contains heterotopic gastric and pancreatic mucosa and less commonly duodenal, colonic or biliary mucosa (3). The most common complications are obstruction of the small intestine, hemorrhage from ectopic gastric ulceration and diverticulitis (3). Meckel diverticulum entrapped in a hernia is known as Littre hernia (3). In this case report, a patient who is presented with irreducible inguinal mass and diagnosed intraoperatively as Littre hernia is reported.

CASE REPORT

A 48 year old male with the complaint of a hard painful lump in his left groin for last 3 days accompanied by abdominal pain, nausea and vomiting admitted to the hospital. His medical history included an inguinal hernia on the left site diagnosed 3 years earlier. During that time he had occasionally noticed an uncomfortable bulge but had always been able to reduce it himself without difficulty. On physical examination a hard, tender, irreducible lump in the left groin was palpable. All other abdominal findings were normal. The leukocyte count was elevated at $16.4 \times 10^9/L$. All other biochemical and

hematological investigations were within normal limits. Plain abdominal radiograph demonstrated air fluid level (Figure 1). But there was no evidence of intestinal obstruction. Diagnosis of incarcerated left inguinal hernia was made preoperatively.



Figure 1. Plain abdominal radiograph demonstrates air fluid level

At operation through an oblique inguinal incision, an incarcerated indirect inguinal hernia was found. Hernial contents were red, edematous and there were adhesions between the intestinal segments. The contents of the hernial sac

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were found to be a loop of ileum with an inflamed Meckel diverticulum at the base, 3.5 cm long (Figure 2). The ileal loops proximal to the diverticulum was found to be dilated. The bands were dissected and the Meckel diverticulum was resected together with a segment of the small intestine and anastomosis made. Herniotomy was then completed after reduction of the ileum into the abdomen with Lichtenstein technique. The patient did well without any complications and was discharged home on the fifth postoperative day.

On histopathological examination the Meckel diverticulum was found to be lined by ileal mucosa and there was no ectopic tissue. The patient remains asymptomatic 20 months after the operation and there was no mesh complication.



Figure 2. The surgically resected ileum segment contains a Meckel diverticulum.

DISCUSSION

Meckel diverticulum is a true intestinal diverticulum that results from the failure of the omphalomesenteric duct to obliterate during the fifth week of fetal development (1). In 1809, Johann Friedrich Meckel published a meticulous description of its anatomy and embryonic origin, and it is known by his name (2). It is the most common congenital anomaly of the gastrointestinal tract and has an incidence of 2-3% (1). Meckel's diverticulum occurs on the antimesenteric border of the ileum and may be located 10-150 cm from the ileocecal valve (4). It contains all normal layers of the intestinal wall and in approximately 50 % of cases ectopic or heterotopic tissue from gastric, pancreatic, duodenal, colonic or biliary mucosa are found (3). Clinically important manifestations of Meckel's diverticulum occur primarily in childhood, with 60 percent of patients becoming symptomatic before age ten and 70 percent before age 40 (5). The most common presentation is an incidental finding at laparotomy (6). Although mostly discovered as an incidental finding on laparotomy or laparoscopy, this entity can be associated with lifethreatening disease states.

Complications manifest as ulceration-hemorrhage, small bowel obstruction, diverticulitis and perforation. Also umbilical

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anomalies such as fistulas, sinuses, cysts and fibrous bands between the diverticulum and umbilicus and neoplasms are other very rare complications (7). The risk of complications ranges from 4-25% in various studies (8,9). Retrospective studies suggest that the onset and frequency of complications decrease during life (10). Bleeding (25%) is the most common complication especially occurring in children and it typically presents as hematochezia (11). The hemorrhage is a result of heterotopic gastric mucosa leading to ulceration. The most useful method of detection of a Meckel diverticulum is Technetium-99m scanning. This method depends on ulceration and bleeding due to the heterotopic gastric mucosa (8).

Most adults present with obstruction (33%), diverticulitis (30%) or both (9). Several mechanisms may cause obstruction. The diverticulum may be the leading point for an intussusception or volvulus around a fibrous band by which the diverticulum remains attached to the umbilicus. Other mechanisms of obstruction include entrapment of bowel within an internal hernia, entrapment between the mesentery and a mesodiverticular band, strangulation of the diverticulum in an external hernia (4). Our patient has been operated as incarcerated inguinal hernia and Littre hernia diagnosed at operation.

Littre's hernia (11%) is an unusual complication of a Meckel diverticulum. It has been reported originally by Alexis Littre in 1700 as a small intestinal diverticulum incarcerated in a femoral hernia but the term is now used to describe the presence of a Meckel diverticulum in a hernia in any location (12). 50% of Meckel diverticula in Littre hernias occur in the inguinal region, 20% in a femoral site, 20% in an umbilical site and remaining 10% in other locations (13). In symptomatic Littre hernia the patient presents with a mass (14). Pain, fever and vomiting are common symptoms. Although fever and leucocytosis evolve, mechanical intestinal obstruction mostly may not be seen in incarcerated or strangulated Littre hernia (14).

The preoperative diagnosis of a Littre hernia is difficult to establish. In case of mechanical small intestinal obstruction plain abdominal radiographs may demonstrate air fluid level. The computerized tomography scans are often nonspecific but occasionally helpful. The diagnosis is generally not possible with computerized tomography unless the diverticulum is visualized (15). In management of a Littre hernia Meckel diverticulum must be resected. The accepted treatment is wedge resection of the diverticulum and repair of the ileum from within the sac (16). If there is edema or inflammation at the base of the diverticulum as in our case; resection and anastomosis of a segment of ileum may be necessary. It may prevent postoperative stricture of resected segment (16,17).

In conclusion, the Meckel diverticulum may be found in any type of hernia especially at inguinal site so, incarcerated hernia should not be attempted to reduce. In treatment of Littre hernia Meckel diverticulum should be resected and it is better to perform resection and anastomosis of ileal segment in these patients to prevent postoperative ileal stricture.

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