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Epiploic appendicitis in inguinal hernia sac presenting an inguinal mass

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Abstract Inguinal hernia sometimes surprises surgeons with its unexpected content. Epiploic appendagitis in hernia sac is a very rare entity. We report a 60-year-old male patient with a painless inguinal mass. Surgical exploration showed a 4-cm mass beneath the external oblique aponeurosis that consisted of a hernia sac containing an inflamed and remarkably swollen appendix epiploica of the sigmoid colon secondary to torsion. The patient recovered after the resection of epiploic appendix and a tension-free hernia repair.

Keywords Epiploic appendagitis · Inguinal hernia · Inguinal mass · Sigmoid colon

Introduction

Nearly all abdominal organs, even the stomach, can be found within inguinal hernia sac [1]. The sigmoid colon is one of those organs and different pathologies related to the sigmoid colon have been reported [2, 3, 4].

Epiploic appendixes were first described by Vesalius in 1543 as anatomic entities along the antimesenteric teniae coli [5]. These fatty, serosa-covered structures may be torsioned, and develop acute infarction and inflammation that can mimic a variety of clinical pictures of acute abdominal pain. Epiploic appendagitis (EA) is a self-limited condition. For this reason, correct diagnosis is of great value to avoid unnecessary surgery [6, 7].

Epiploic appendagitis within a hernia sac is a very rare entity. The only case in MEDLINE records was reported from Russia in 1989 [8]; however, some earlier cases on relation of appendixes epiploica and hernia had

been reported from the United States as early as the 1920s [9]. We herein report a new case of EA related to inguinal hernia and presenting an inguinal mass.

Case report

A 60-year-old male patient admitted to the hospital with a 6-month history of a left inguinal mass. The mass was painless and 4 cm in diameter with no cough impulse. The patient had no problem of bowel passage. Physical examination revealed no other abnormalities. As ultrasound displayed a 4-cm inguinal wall defect and an incarcerated bowel loop, preoperative diagnosis was recorded as “irreducible left indirect inguinal hernia”.

In the operation, a firm, round mass 4 cm in diameter was found beneath the external oblique aponeurosis just at the external ring. The mass did not have a close relationship with the cord. There was a wide aperture at the internal ring and the inferior epigastric vessels were displaced medially (Gilbert type 3). The mass was carefully freed from contiguous structures with sharp dissection. A thickened hernia sac, like a tumour capsule, was found and opened; an inflamed and remarkably swollen appendix epiploica of the sigmoid colon secondary to torsion was seen. The sigmoid colon itself was completely normal and not involved in the hernia sac—as in a sliding hernia; its other appendixes were normal (Fig. 1). An umbrella-shaped polypropylene plug was inserted into the defect and attached to the transversalis fascia with four 2/0 polypropylene sutures. The plug hernioplasty was reinforced with a 12×8 cm polypropylene patch using several interrupted 2/0 polypropylene sutures.

The patient was discharged after 24 h following an uneventful postoperative course. Histopathologic examination showed a 6×4×2 cm fatty-fibrous mass with haemorrhagic infarction and chronic inflammation, consistent with epiploic appendagitis. No complications and complaints were observed by the 30-day control examination.

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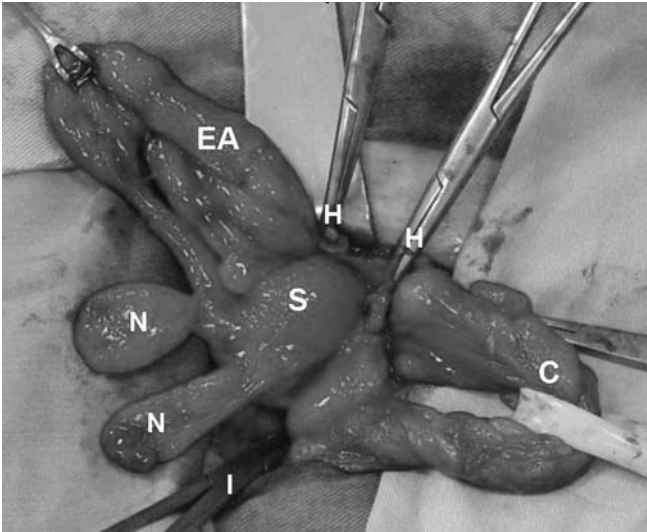


Fig. 1 Operative findings: torsioned and inflamed epiploic appendix (EA), sigmoid colon (S), normal epiploic appendices (N), spermatic cord (C), opened hernia sac pointed with forceps (H), inguinal ligament pointed with forceps (I)

Discussion

Inguinal hernia is a common surgical problem that sometimes surprises surgeons with its unexpected content. As almost all abdominal organs and their pathologies, including metastatic cancers, may be involved [10], different pathologies of the sigmoid colon have been reported [2, 3, 4]. However, the number of the reports on torsioned appendixes epiploica of the sigmoid colon within the inguinal hernia sac are very limited [8].

EA is a rare pathology, with less than 300 cases reported by the year 2000 [11]. It is a self-limiting inflammatory process and the treatment is conservative: analgesics and nonsteroidal anti-inflammatory agents for 3–7 days [6, 12]. Nevertheless, misdiagnosis can lead to unnecessary antibiotherapy, and even to surgery [13].

Because tough EA can mimic a variety of abdominal pathologies, it has been named a “great imitator”. Usual presentation of EA is abdominal pain. Nausea, vomiting, anorexia and a low-grade fever may be included in the picture [7, 12, 14]. As one of the most common misdiagnoses is occlusion and acute inflammation of vermiform appendix for right-sided abdominal pain, another common pathology is acute diverticulitis for left-sided pain. To avoid unnecessary surgery it is important to make differential diagnosis. Today, imaging tools like ultrasound (US) and computed tomography are successfully used for discriminating the pathologies [7, 12]. However, in the present case, US did not help provide an accurate diagnosis; the mass was reported as bowel loops. Possibly, the radiologist was not able to see inflamed epiploic appendix because of the partly superposed sigmoid colon.

Inflammation of epiploic appendixes may be primary or secondary to torsion because of miscellaneous

factors. Incarceration within a hernia is a rare cause for secondary torsion. Appendixes may be twisted around an adhesion when a colonic segment is incarcerated within the hernia. On the other hand, an already inflamed appendix may enter the hernia sac and cause incarceration. It is hard to reveal the exact mechanism, as in the present case, but the treatment does not differ.

In contrast to acute inflammation, chronic torsion and inflammation of epiploic appendix may only cause minimal irritation symptoms [15]. Besides, chronic EA may sometimes result in mass formation [14]. In the present case, no history of acute onset of pain was recorded and the inguinal mass was almost painless. This clinical picture reflects a chronic process and the histopathology report supports it.

Although both acute and chronic epiploic appendagitis are self-limiting pathologies, it is obvious that surgery is unavoidable in cases like the present one for two reasons. First, a possible incarcerated hernia exists, and second, there is an obvious mass in the inguinal region. It has been advised that any inguinal hernia be repaired on an elective basis [16]. However, many pathologies can masquerade as inguinal hernia, and some of those may be neoplastic masses [17, 18]. For these reasons, the present case was managed surgically and a tension-free repair was done after observing the probable nature of the mass.

In conclusion, epiploic appendagitis, inguinal hernia and inguinal region mass create an interesting triangle. It is nearly impossible to be aware of this rare picture preoperatively. However, this is not a real problem in practice and the treatment is just the sum of two simple procedures: resection of inflamed epiploic appendix and repair of the hernia.

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