

Amyand's hernia with acute phlegmonous appendicitis: case report

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SUMMARY: Amyand's hernia with acute phlegmonous appendicitis: case report.

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Any inguinal hernia containing the vermiform appendix is called Amyand's hernia. Amyand hernias are very rare and even rarer is the as-

sociation of Amyand hernia with acute appendicitis. Due to the rarity of this entity, it constitutes a challenging case in terms of diagnosis and treatment. The surgical management is not yet standardized and there are no clear guidelines. There are some controversies regarding whether to perform an appendectomy if appendix appears normal or whether mesh can be used for the hernia repair if appendectomy is performed. We describe a case of Amyand hernia in a 90-year old man with acute appendicitis and we review current literature regarding surgical strategy.

KEY WORDS: Amyand Hernia - Acute appendicitis - Hernia repair.

Introduction

Any inguinal hernia containing the vermiform appendix is called Amyand's hernia. In 1735 Claude Amyand performed the first successful appendectomy on a 11-year-old boy, where he described the presence of inflamed appendix within an inguinal hernia (1, 2).

Amyand hernias are very rare and their incidence is estimated to occur in about 1% of inguinal hernia (3). Even rarer is the association of Amyand hernia with acute appendicitis, estimated to be 0.08-0,13% of cases (4). Due to the rarity of this entity, it constitutes a challenging case in terms of diagnosis and treatment. The surgical management is not yet standardized and there are no clear guidelines. There are some controversies regarding whether to perform an appendectomy if appendix appears normal or whether mesh can be used for the hernia repair if ap-

pendectomy is performed. We describe a case of Amyand hernia in a 90-year old man with acute appendicitis and we review current literature regarding surgical strategy.

Case report

A 90-year old male patient presented to Emergency Department with five days of right groin and testicular pain and swelling. Other symptoms included a low-grade fever and nausea and vomiting for two days. His past history is significant for Chronic obstructive pulmonary disease and Arterial Hypertension. He reported a past surgical history of right hip replacement prosthesis. The physical examination revealed a non-distended abdomen with tenderness in the right inguinal region. A 3 x 4 cm non reducible mass was notated in the right inguinal canal. The rest of physical examination was unremarkable. Initial abdominal ultrasonography (Figure 1) revealed an herniation of an intestinal loop with the characteristics of the appendix. The CT abdominal scan (Figure 2) confirmed the presence a

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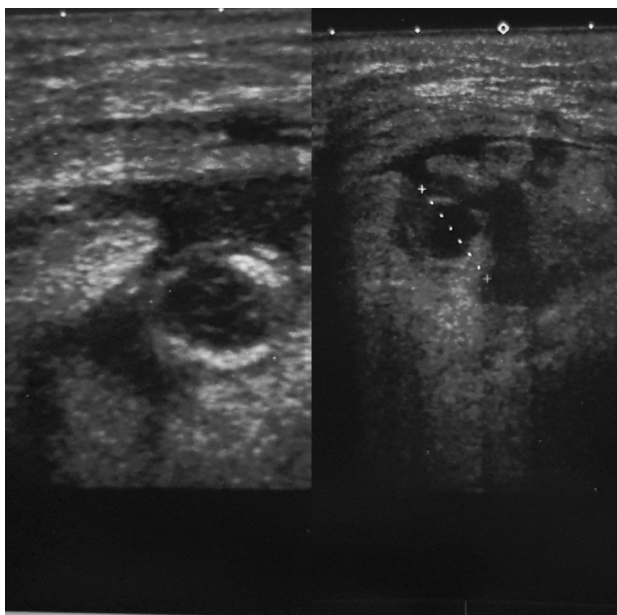


Figure 1 - Abdominal ultrasonography: herniation of an intestinal loop with the characteristics of the appendix.



Figure 2 - CT showing an incarcerated right inguinal hernia with small bowel in the right groin/hernia sac.

right inguinal hernia with herniated loop of bowel with contrast enhancement.

The patient was taken to the operating room for an emergent right inguinal hernia exploration. The opening of hernia sac revealed a long tubular structure that was immediately recognized as inflamed appendix. The patient underwent an appendectomy

and a tension free repair with ProgridTM self-fixating Mesh through the same inguinal access. A right orchiectomy was associated due to neoplastic aspect of the right testis. The histological examination confirmed the presence of Intratubular germ cell neoplasia of the testis and a purulent appendicitis with serositis. The postoperative recovery was uneventful. At 6 months follow up the patient is well, and no signs of recurrence or wound infection were detected.

Discussion

Amyand's hernia is very difficult to diagnose preoperatively. The differential diagnosis includes incarcerated or strangulated inguinal hernia, inguinal lymphadenitis, testicular torsion, acute epididymitis, acute hydrocele and focal panniculitis (5-7). The clinical presentation generally mimics that of an incarcerated inguinal hernia. The diagnosis is generally made at the operating room but in some cases, like in our patient, the diagnosis was made preoperatively with the aid of inguinal echography and abdominal tomography (8-12). Regarding the physiopathology of this rare hernia, most authors believe that the appendicitis develops due to external compression and sudden increases in intra-abdominal pressure causing ischemia and subsequent inflammation (3). In 2007 Losanoff and Basson proposed an Amyand hernia classification system that can be useful for intraoperative decision making (13) (Table 1). This system identifies four unique hernia types: 1) normal appendix in inguinal hernia, 2) acute appendicitis in an inguinal hernia, without abdominal sepsis, 3) acute appendicitis in inguinal hernia, with abdominal wall or peritoneal sepsis, and 4) acute appendicitis in inguinal hernia, with other abdominal pathology. However, there are still two controversial arguments in the surgical treatment of this rare entity. Most of the authors in case of non-inflamed appendix do not suggest removal. However, some authors propose a prophylactic appendectomy for the risk of recurrence and the possibility of future appendicitis (3). If acute appendicitis is associated with Amyand's hernia, the classical recommendation is to proceed with appendectomy and herniorrhaphy. The use of mesh in such a situation

TABLE 1 - LOSANOFF AND BASSON CLASSIFICATION OF AMYAND'S HERNIA.

Classification	Description	Surgical Management
Type 1	Normal appendix in an inguinal hernia	Hernia reduction, mesh repair
Type 2	Acute appendicitis in an inguinal hernia, without abdominal sepsis	Appendectomy, primary repair of hernia without mesh
Type 3	Acute appendicitis in an inguinal hernia, with abdominal wall or peritoneal sepsis	Laparotomy, appendectomy, primary repair without mesh
Type 4	Acute appendicitis in an inguinal hernia, with abdominal pathology	Manage as type 1-3, investigate pathology as needed

remains controversial (14). According to Losanoff's classification in every case of appendectomy a mesh should not be used due to the risk of infection. There is a considerable agreement regarding surgical treatment for types 3-4 which entails an appendectomy with a primary hernia repair and avoidance of mesh (15). However, there are documented reports of successful outcomes for hernias identified as type 2 Amyand's hernia performing appendectomy and tension free repair with mesh, like in our case (16-18). However, our surgical strategy can't be standardized, and surgeons will continue to take sub-optimal decisions not evidence based which potentially increase patient morbidity.

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Conclusion

Amyand's hernia is a rare entity that can be challenging for the surgeon. The preoperative diagnosis is sometimes possible with the aid of the echography and abdominal CT scan in expert hands. It's difficult to standardize the surgical treatment because there are several variables to considerate, such as the state of appendix and the risk of infection. In case of inflamed appendix with no signs of perforation or gangrene, an appendectomy with a mesh repair can be accepted as a safe procedure, but further studies are necessary to confirm this surgical strategy.

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