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Case Report

Amyand's hernia: a case report and review of the literature

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ABSTRACT

Amyand´s hernia represents an unusual cause of hernia. It has an incidence of 1% of all inguinal hernias. The clinical presentation depends on the involvement of the hernial sac and the inflammatory state of the appendix. Due to the low frequency of presentation of Amyand's hernia, there is no protocolized treatment. Authors present the case of a 70-year-old patient with the presence of surgically resolved Amyand´s hernia.

Keywords: Appendicitis, Inguinal hernia, Amyand´s hernia

INTRODUCTION

A hernia is a defect in the continuity of the fascial structure or fascia of the wall that allows the protrusion of elements that normally do not pass through it.[1] Amyand's hernia is named after Claudius Amyand, who on 06 December, 1735 performed the first successful appendectomy on an 11-year-old boy who presented with a right inguinal hernia, during surgery Amyand found the appendix inside the groin hernia sac. Since then, this condition has been known as Amyand's hernia.[2]

Authors describe a case of a 70 year old male with right inguinal hernia of 7 years of evolution without treatment.

CASE REPORT

Authors present the case of a 70-year-old male who presented to the emergency department of our hospital with 7 days of evolution with the presence of puncture-type abdominal pain located at suprapubic level, later diarrhoea, nausea, decreased appetite, and generalized abdominal pain were added. He received treatment with nonsteroidal anti-inflammatory drugs and unspecified antibiotic therapy without pain improvement.

His vital signs on admission were heart rate of 100 beats per minute, 20 breaths per minute, temperature of 36.8 °C and blood pressure of 130/90 mm Hg. Through directed physical examination, the abdomen was found to be slightly tender, positive rebound, involuntary muscular resistance, and the presence of an incarcerated right inguinal hernia.

An ultrasound was performed with the following findings: right inguinal incarcerated hernia with intestinal content, with liquid interase. Laboratory results revealed leukocytes 8.5×109/l with 76% granulocytes and hemoglobin (Hb) 12.7 gm%.

Given the clinical and paraclinical findings consistent with intestinal occlusion secondary to an incarcerated right inguinal hernia, probably strangled, emergency surgery was performed. Performing appendectomy with primary repair of the hernia without mesh.

The following surgical findings were found: incarcerated inguinal hernia, with an abscessed appendix along its entire length, appendix 10 cm long, 8 mm diameter, integral and respected base, 20 cm segment of the distal ileum, without vascular compromise (Figure 1-3).

Histopathological report was made compatible with acute fibrinopurulent appendicitis.

Figure 1: Retraction of the hernial sac through the inguinal canal manually.

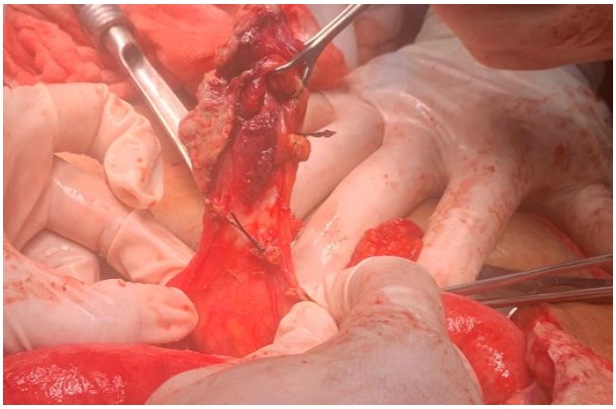

Figure 2: Exposure of the appendix, Amyand´s hernia.

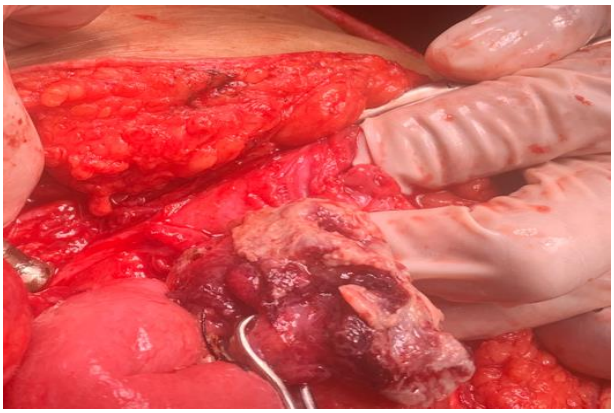

Figure 3: Traction of the middle third of the appendix posterior to the opening of the sac.

The patient remained in hospital 5 days without complications. After surgery remained under surveillance in the outpatient consult for 1 months without complications.

DISCUSSION

Preoperative diagnosis of Amyand's hernia is not straightforward and generally presents as an incidental finding during surgery.[3]

Abdominal physical examination, laboratory and imaging results are not always helpful in differential diagnosis.[4]

The clinical presentation depends on the involvement of the hernial sac and the inflammatory state of the appendix.[5] Epigastric or periumbilical pain of sudden onset, pain in the right lower quadrant and presence of a mass or protuberance in the inguinal or inguino-scrotal region are common.[6] Symptoms of peritoneal irritation may also occur, in most cases localized because the inguinal canal limits the extent of the peritonitis. In most cases, it gives the clinical impression of a strangled hernia, making the clinical diagnosis of Amyand's hernia difficult.[7]

Table 1: Losanoff and Basson classification of Amyand´s hernia.

Classification	Description	Treatment
Type 1	Normal appendix in an inguinal hernia	Hernia reduction and mesh placement
Type 2	Acute appendicitis in an inguinal hernia without abdominal sepsis	Appendectomy and primary repair of hernia without mesh
Type 3	Acute appendicitis in an inguinal hernia and sepsis of the abdominal wall	Laparotomy, appendectomy and hernia repair without prosthesis (mesh)
Type 4	Acute appendicitis in an inguinal hernia with concomitant abdominal disease	Same as type 3 plus treatment of concomitant disease if necessary

The first case of a successful preoperative diagnosis of Amyand's hernia was described by Vermillion et al in which an abdominal and pelvic tomography was used to rule out complications and an inflamed appendix located in the inguinal canal was found.[8]

Although computed tomography can be helpful in reaching a correct preoperative diagnosis, it is generally not part of standard diagnostic study methods when a simple inguinal hernia is suspected.[9]

There is currently no consensus in the literature about the best method of treating Amyand's hernia.[10]

However, Losanoff and Basson created a systematic classification for Amyand's hernia based on the different conditions that they identified based on their experience and recommended treatment based on it (Table 1).[11]

There is considerable agreement regarding surgical treatments for types 3 and 4 of the Losanoff classification, which implies an appendectomy and hernia repair without mesh placement.[12] It is described in the literature that the use of prosthetic mesh can increase the inflammatory response, so it is partially contraindicated in the closure of contaminated abdominal wall defects due to the risk of infection of the wound and mesh.[13]

However, there is a current controversy regarding surgical treatment for types 1 and 2 of the Losanoff and Basson classification system.[14] There are cases that are not compatible with the classification, so surgical treatment may be variable depending on the case.[15]

According to the Losanoff classification, if an appendectomy is performed, the mesh should not be used due to the risk of infection and fistula, as many authors argue that there is a violation of asepsis by resecting the cecal appendix during clean surgery.[16]

Other authors argue that by performing an appendectomy, a subsequent decrease in costs and morbidity and mortality can be achieved, there are others that defend the placement of mesh since cases with favorable results have been reported in patients who underwent an appendectomy in the context of a Amyand's hernia, without evidence of infection and lower recurrence rate of the hernia in patients who had mesh placed.[17]

Favorable results have been reported with the use of drainage and double antibiotic therapy based on a second generation cephalosporin and metronidazole for a minimum period of 5 days after performing an appendectomy plus prosthetic mesh placement in the context of an Amyand hernia.[18]

CONCLUSION

Due to the low frequency of presentation of Amyand's hernia, there is no protocolized treatment. However, surgery can be both diagnostic and therapeutic, the decision to remove the appendix or not, to place a mesh or not, will depend on the surgeon who must take into account various factors such as: the degree of inflammation of the appendix, the degree of contamination of surgery and cavity, age, patient comorbidities, and surgical findings to define adequate treatment. In this case we performed an appendicectomy with primary repair of the hernia without mesh because it corresponds to a type 2 Amyand's hernia according to Losanoff and Basson classification.

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