Case Report

Amyand’s Hernia, Report of Three Cases and Discussion of Management

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INTRODUCTION

Amyand’s hernia was defined by Claudius Amyand in 1735 as an inguinal hernia containing vermiform appendix. Is a very infrequent pathology with an incidence of 0.4 to 0.6% of all inguinal hernias. The diagnosis is difficult and usually a surgery finding, needing surgeon’s best knowledge about this pathology for better outcomes.

CASE PRESENTATION

Case 1

56-years-old woman came to emergency room with a 10 hours evolution right inguinal severe pain. She mentioned previous hiatal hernioplasty, a cesarean and smoking 6 cigarettes daily. Other pathological background was denied. In the morning after carry a big box she presented an inguinal painful mass and tried to reduce it manually without success. Two hour later she was nauseous and vomited four times before assisting to a physician who administered an analgesic without improvement she was nauseous and vomited four times before assisting to a physician who administered an analgesic without improvement.
hernia was diagnosed. An ultrasound was done and reported a non-compressible mass of 3.5x2.2 cm in hernia sac, with liquid surround it. An emergency open hernioplasty was carried out, finding an ischemic ileum segment of 10cm in the hernia sac and vermiform appendix of 6cm with tip ischemia (Figure 1B). After manipulation ileum presented reperfusion and was reduced to abdominal cavity. Appendectomy was carried out and a Rutkow-Robbins hernioplasty with polypropylene mesh was done. Patient was discharged 48 hours later. After 8 months follow up she presented no complications.

Case 2

35-year-old man come to surgery consult with a right inguinal hernia of 8 years of evolution. He was from an indigenous community and did not assist with a surgeon previously. At interrogatory without pathological background. He refers a week without reduction of the mass to abdominal cavity as usual, with food intolerance and only liquid consumption, sometimes with vomiting after ingestion. At physical exam with Glasgow 15, 80 beats per minute, 22 breaths per minute, abdomen without acute abdomen signs, in right inguinal region presented an inguino-scrotal hernia of 15 cm diameter without reduction at maneuvers (Figure 2A). Incarcerated right inguinal hernia was diagnosed and an emergency hernioplasty was scheduled. After sac was open we found the vermiform appendix, cecum, ascending colon and an ileum segment of 15 cm (Figure 2B). Appendix not showed inflammation signs and appendectomy was developed with Rutkow-Robbins hernioplasty posteriorly using polypropylene mesh. Patient was discharged uneventfully 24 hour later and at 4 months follow do not have any complications.

Case 3

72-year-old man with an eight years evolution right inguinal hernia was scheduled for hernioplasty. He had not pathological background. At physical exam presents a right inguino-scrotal hernia with 8cm of diameter, partially reductible without possible palpation of inguinal ring diameter, but without incarceration signs. At surgery he presented an inguino-scrotal no reductible hernia, containing vermiform appendix in hernia sac, it does not present inflammation signs, only multiple sac adherences (Figure 3). Appendectomy was developed and Rutkow-Robbins hernioplasty with polypropylene mesh accomplished without complications. Discharge uneventfully was carried out 24 hours later. At 4 months follow up patient was asymptomatic.

DISCUSSION

Amyand’s hernia is a rare pathology that have been identified many centuries ago, and precisely for the low incidence previously estimated in about 1% of all inguinal hernias and in recent series about 0.4-0.6% [1,2], reports about the management with better outcomes does not exist, and previous case reports only present the author’s treatment experience without an evidence based approach, with some classic ideas about wound infection risk and mesh use in clean-contaminated cases that have evolved along history [5,6].

Pathophysiology of Amyand’s hernia is not well known, but some theories suggest that intermittent compression of appendix produce blood supply compromise, reducing perfusion leading to inflammation and adhesions, following by non-reductibility of the segment. This rare presentation frequently is favored by a mobilized ascending colon and cecum considered to predispose vermiform appendix incarceration. Intra-abdominal increased pressure for abdominal muscles contraction or another cause must contribute to further inflammation and appendicitis in 0.08-0.13% of cases [7-9].

Physical exam will reveal swelling in the groin as the most common finding, followed by tenderness, pain, fever and vomiting [10]. Vermiform appendix’s location would predispose other symptoms including fever, vomiting, gastrointestinal symptoms and bowel obstruction, but this connection is inconsistent, because the neck of the hernia will usually prevent the spread of inflammation and limit peritoneal irritation, making the clinical image duller than expected [11].

Amyand’s hernia remains an incidental finding during surgery in the majority of cases. Ultrasound or abdominal

Figure 1 A Right incarcerated inguinal hernia. B. Vermiform appendix with tip ischemia.

Figure 2 A Right inguino-scrotal incarcerated hernia. B Ileum, cecum and vermiform appendix in the hernia sac without inflammation signs.

Figure 3 Vermiform appendix that was in the inguinal sac with multiple adherences but without signs of acute inflammation.
tomography could be useful to confirm diagnosis, showing a blind-ended non-compressible tubular structure in the first. In the laparoscopic era Amyand’s hernia will be diagnosed in many cases during laparoscopy, and the trans abdominal hernioplasty have reported good results [1,12].

Most authors believe that when the appendix is incidentally found and shows no signs of inflammation, prophylactic appendectomy is not necessary whereas others choose to treat all their patients with appendectomy [1,2,7-11]. We must remember that appendicitis is an histopathology diagnosis and 15-20% of biopsies do not correlate with clinic first appreciation, open the possibility of normal appendix diagnosis clinically, but acute appendicitis in pathology exam [13,14].

Surgical management with tension techniques in cases of Amyand’s hernia plus appendicitis, as recommended by the majority of authors in previous reports, is associated with 30% hernia recurrence and/or wound dehiscence [15].

Many years ago the use of prosthetic mesh in clean-contaminated or contaminated wounds was contraindicated. This ideas still being applied for many old school surgeons. An extensive worldwide investigation in literature supports the use of prosthetic mesh in contaminated fields in multiple scenarios including strangulated hernias with bowel resection, para-stomal hernia prophylaxis, trauma open abdomen or procedures including breaches gastrointestinal tract [6].

Nieuwenhuizen and colleagues reported the outcomes of inguinal and ventral hernias operated on for acute incarceration and strangulation, in which 99 had mesh placed and 103 underwent primary suture repair. These investigators found wound infection rates of 7% with mesh and 18% without mesh [16].

In a combined analysis of results of prosthetic mesh repair in cases of strangulated inguinal and incisional hernias available in the literature conducted by Bessa and Abdel-Razek, 572 patients were analyzed, bowel resection was required in 14.7% of cases, with a wound infection rate of 4%, seroma rate of 3.8%, and mesh infection only in 1 patient (0.2%) [17].

The presented cases, with surgical decisions based in literature evidence and good outcomes, must encourage surgeons to change his daily practice in multiple procedures like Amyand’s hernia management or other procedures requiring mesh use in clean-contaminated or contaminated wounds, to offer the best evidence based treatment options and achieve better outcomes, reducing hernia recurrence or risk of future surgeries. For this reason we recommend perform appendectomy in all cases of Amyand’s hernia and use mesh to perform the hernioplasty as a safe and feasible procedure.

REFERENCES