Amyand's hernia in a patient with diagnosis of inguinoescrotal hernia

Hernia de Amyand en paciente con diagnóstico de hernia inguino escrotal

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ABSTRACT

Hernia repair in the inguinocrural region is one of the most frequent operations in surgical practice. The cecal appendix may be found contained in the inguinal or crural hernial sac, which is called *Amyand* and *Garengeot* hernias, respectively.

Amyand's hernia constitutes a type of inguinal hernia in which its content is the vermiform appendix. Given the rarity of the condition, it is difficult to unify criteria on the management of this pathology.

Key words: Amyand's hernia; Garengeot's hernia; Appendix; Hernioplasty.

RESUMEN

La reparación de la hernia en la región inguinocrural es una de las operaciones más frecuentes en la práctica quirúrgica. Pueden encontrarse el apéndice cecal contenido en el saco herniario inguinal o crural, lo que se denomina hernias de *Amyand* y *Garengeot*, respectivamente.

La hernia de Amyand constituye un tipo de herniación inguinal en la que su contenido es el apéndice vermiforme, dada la rareza del cuadro resulta complicado unificar criterios sobre el manejo de esta patología.

Palabras claves: Hernia de Amyand; Hernia de Garengeot; Apendice cecal; Hernioplastia.

INTRODUCTION

Inguinal hernia repair is one of the most frequent procedures in surgical practice. However, it can always constitute a technical dilemma for the surgeon, even for those with plenty of experience. They can be met with unusual findings, such as cecal appendix partially or completely contained within the hernial sac, inflamed or not, or present other complications [1-2].

The presence of the vermiform appendix in the interior of an inguinal hernial sac is denominated as an Amyand's hernia. Inguinal hernia contained within the vermiform appendix's incidence is about 0.28-1 %. The presence of an appendicitis within an inguinal hernia's interior is even less infrequent, with a 0.07-0.13 % incidence; and performing a preoperatory diagnosis is exceptional [3].

Historically, Claudius Amyand described in 1735 the presence of a punctured appendix inside an incarcerated inguinal hernial sac; and it was Rene Jacques Croissant de Garengeot who described in 1731 the first femoral hernia intervention containing the non-inflamed appendix. The first appendicitis on a femoral hernia, something even more infrequent, was intervened by Hevin in 1785. Hence the appendix can be found in this type of hernia without alterations, different appendicitis or congestion by incarceration grades, having to use the eponym "Amyand's hernia" to qualify an appendix within an irreducible inguinal hernia and "Garengeot's" to describe the appendix's incarceration within a femoral sac [4-5].

There is no standard protocol for this disorder's management. However, Losanoff and Basson published a guide for the management of Amyand's hernia, which is summarized in Table 1.[6] Factors such as the presence of an inflamed appendix, surgical field contamination, patient's age and anatomical findings of the tissues are important determinators for a proper surgery.[6]

Given that these hernias constitute a historical diagnosis and their confirmation in most cases are stablished during the surgical act, the subject's bibliography is revised with the objective of developing a support material for professionals involved with these rare surgical entities.

CLINICAL CASE'S PRESENTATION

70-year-old male, reported episodes of pain in the inguinal region on several occasions to the emergency services, last one being 5 days ago in the right inguinal region, abrupt origin piercing-type of moderate intensity which irradiates to the same scrotal region, becomes exasperated with physical effort, and yields with rest. Also, a tumor on the scrotal region of insidious origin is added, low and progressive growth, denies fever sensation, feces and gas detention, or other accompanying symptoms.

Refers similar episodes approximately 4 years ago. The physical exam shows a 6 cm tumor on the right scrotal region, painless to palpation with soft, elastic border consistency, non-reductible.

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Table 1. Losanoff and Basson classification for Amyand's hernia management (6)

Classification	Description	Hernia's treatment
Type 1	Normal appendix	Appendix reduction, or Appendectomy. Hernioplasty with mesh
Type 2	Acute appendicitis without peritonitis	Appendectomy through hernia. Repair without mesh
Type 3	Acute appendicitis with peritonitis	Appendectomy through laparotomy. Repair without mesh
Type 4	Acute appendicitis associated to another pathology	Appendectomy. Perform other procedures if necessary. Repair with or without mesh

Blood analysis yield no altered parameters, ultrasound reveals protrusion of abdominal content (adipose tissue with intestinal folds) in the right inguinal canal after Valsalva maneuver, partially reducible, outside the inferior epigastric vessels through wall's continuity solution of 21 mm diameter.

With the right indirect inguinal hernia L3P scrotal variety diagnosis according to EHS classification [5], a hernial sac of 8 cm is found during the surgical act, proceeding to dissection its opening yields cecum slip and no signs of cecal appendix inflammation, the latter being fixed on the sac's edge, a classical Appendectomy is performed, followed by a inguinal hernioplasty through Liechtenstein technique, without additional pathological findings. Postoperative was without incidents.

Pathological anatomy report: hernial sac of fibroadipose tissue with hyalinization sectors. The longitudinal external muscular and circular internal wall, with the central area occupied by fibrosis and adipose tissue. By its morphology this structure is compatible with extreme distal end of cecal appendix with luminal fibrous obliteration. Atypia absence.

DISCUSSION

Amyand's hernia presents usually presents itself as a sensitive, tense, and irreducible mass in the inguinal region, accompanied by several grades of abdominal pain and vomiting. The cecal appendix within the hernial sac's finding is greatly casual in percentage, and from there is when the correct decision must be made about the treatment, based on clinical, laboratorial, and imagery parameters and having the Losanoff classification as backup. Within the present case the Appendectomy was decided due to the appendix's adherence to the hernial sac.

Figure 1. **Panel A:** patient with right L3P inguinal hernia according to EHS classification can be seen. **Panel B:** after appendectomy the adherence to the sac can be observed. **Panel C:** cecal appendix freed from the sac without apparent inflammatory signs.

Conflict of interest
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Author's contributions
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Ethical considerations
Taking into consideration the research's ethical principles, no experiments in animals or human beings were done, authors have followed their work center's protocol regarding the publication of the patients' data who have participated and remain anonymous in consideration of confidentiality.

Informed consent was obtained from the patient referenced in this study; this document is held by the work's author.

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