International Journal of Research in Medical Sciences
Rodriguez MCC et al. Int J Res Med Sci. 2025 Mar;13(3):1261-1263
www.msjonline.org
pISSN 2320-6071 | eISSN 2320-6012
DOI: https://dx.doi.org/10.18203/2320-6012.ijrms20250696

Case Report

Amyand's hernia: a finding in the diagnosis of inguinal hernia

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Received: 26 December 2024
Revised: 29 January 2025
Accepted: 29 February 2025

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ABSTRACT

Amyand's hernia is defined as the presence of a cecal appendix in the context of an inguinal hernia sac, which may be found with or without signs of aggravation. Since the very beginning in the medical history its defined as a rare entity, the epidemiology and outcomes are diverse, since the pathophysiologic mechanism is not fully understood it should always be considered in conjunction with the presentation of a right inguinal hernia, the initial diagnostic methods do not represent a sufficient specificity to be suspected in all cases, but within the surgical findings either with data of exacerbation or not, it is recommended to evaluate the underlying cecal tissue. The final objective of this present case is to bring light about the complexity in the diagnosis and the outcome of late diagnosis in a comorbid based population, since is time dependent about diagnostic resources and clinical suspicion become the last and fundamental utility for the clinician.

Keywords: Amyand's hernia, Appendix, Inguinal hernia, Appendicitis, Complex inguinal hernia

INTRODUCTION

Amyand's hernia is defined as the presence of the cecal appendix within an inguinal hernia sac and can present as a normal appendix or with appendicitis in any of its stages. The prevalence of an Amyand's hernia with a normal appendix as content is low, between 0.13-1.7%, being lower associated with acute appendicitis, with a prevalence of 0.07-0.13%.[1-3] There is also garengeot's hernia, named after Jacques Croissant de Garengeot who described it as a vermiform appendix inside an indirect inguinal hernia sac in 1731, without inflammatory signs.[4]

Its most common presentation is that of a predominantly right irreducible inguinal hernia, accompanied by abdominal pain varying in intensity and vomiting. Left-sided cases have also been reported in cases of intestinal malrotation, mobile cecum or situs inversus. It should be noted that the typical clinical presentation of appendicitis is not constant, presenting infrequently with fever, leucocytosis, periumbilical pain that migrates to the right iliac fossa or inguinal region, abdominal distension and peritoneal irritation.[2] The exact pathophysiology of this condition is unknown. It is believed to be caused by extraluminal obstruction associated to muscular contraction or another cause of sudden increase of intra-abdominal pressure, causing compression of the appendix and decrease of its irrigation, which translates into ischemia and bacterial overgrowth.[1,3]

Preoperative diagnosis is difficult to perform, since the routine imaging study is simple abdominal radiography; however, it has not been found to be useful in cases of Amyand's hernia. Abdomino-pelvic ultrasound can occasionally make an incidental diagnosis. Despite its high sensitivity and specificity in the diagnosis of acute appendicitis, computed axial tomography is not the usual imaging study for the diagnosis of incarcerated inguinal

hernia, so the accurate diagnosis is usually made in the trans-operative period.[3,8] The diagnosis, as in all abdominal pathology, must be made early, to avoid complications with diffuse peritonitis secondary to appendiceal perforation as well as to avoid necrotizing fasciitis.[5,6] The most accepted classification and management of Amyand's hernia is that of Lossanoff and Basson, which establishes a therapeutic conduct based on the condition of the appendix.[4] The differential diagnoses to be taken into account are strangulated inguinal hernias, strangulated Omentocele, Richter's hernia and inguinal adenitis.[7]

The adequate treatment will depend on the trans-operative findings, since in those cases in which the appendix is normal, only the reduction of the content, including the appendix, with hernioplasty is recommended, unlike cases with acute appendicitis, where appendectomy with hernioplasty is recommended in those cases in which the surgical field is not contaminated. If the cavity is contaminated, the risk of infection is high or a perforated or gangrenous appendix or peri-appendicular abscess is found, the use of prosthetic material for inguinal hernia repair is contraindicated.[3]

CASE REPORT

A 58-year-old male, with no pathological history of importance, who began his illness in April 2023 with progressive increase in volume in the bilateral inguinal region, with protrusion on exertion, without any other symptomatology. He was admitted to the emergency room on 10/08/23 for presenting pain in the bilateral inguinal region, predominantly right, of 5 days of evolution, VAS 6/10, which did not subside with analgesics, without irradiation, accompanied by fever quantified at home at 38°C and bowel movements decreased in consistency 48 hours prior to admission.

He was evaluated by a general surgery on the day of admission, finding the patient afebrile and tolerating the oral route. On examination abdomen globose, soft, not painful, with no evidence of peritoneal irritation, with peristalsis present. Male genitalia with presence of enlargement in bilateral inguinal region, predominantly on the right, 7 cm in diameter and 4 cm in diameter on the left, irreducible, painful on palpation, without changes in local temperature. No significant alterations in admission laboratories (leukocytes 6.65, neutrophils 57%, total bilirubin 0.1, direct 0.06 and indirect 0.04).

Inguinal and scrotal ultrasound 10/08/2023. Right inguinal region: Subcutaneous cellular tissue with adequate echogenicity, continuity solution of the aponeurosis, ring of 33 mm with protrusion of hernial sac is identified, which is extenuated until ipsilateral scrotal region of epiploic content and intestinal loops with loops present. Left inguinal region identifying a solution of continuity in aponeurosis ring of 13 mm with protrusion of hernial sac 76×18 mm of epiploic content and intestinal loops, partially reduced with sphincter and with vascularity observed on color Doppler. Concluding non-reducible right inguino-scrotal hernia and partially reducible left inguinal hernia, bilateral hydrocele. She was admitted with a diagnosis of bilateral incarcerated inguinal hernia, for protocol for elective bilateral inguinal plasty.

Entering the operating room on 11/08/23, performing midline abdominal approach and finding bilateral inguinal hernia+Amyand's hernia (type 2 of Losanoff) +Stage IV acute appendicitis. Left region with firmly adherent omentum contents. Right region of cecal content, with perforated cecal appendix at its base, without exit of intestinal contents in sac or cavity, stump management with Pouchet technique and invaginated with Halsted technique. It was decided to perform appendectomy, reduction of hernial content and herniorrhaphy due to high risk of infection.

He was discharged due to adequate evolution on 08/14/2023 scheduled for bilateral inguinal plasty on 09/12/23, where he found right indirect inguinal hernia with 2 cm ring, 5×7 cm sac. Left indirect inguinal hernia with 1.5 cm ring with 3×2 cm sac, left testicle with incomplete descent to the scrotal sac. Weakness of the floor of the bilateral inguinal canal. Classified as Nyhus II, Gilbert II repaired with Lichtenstein technique Figure 1. The patient was discharged on 11/12/23 without complications, with subsequent outpatient follow-up where the patient was found with adequate evolution.

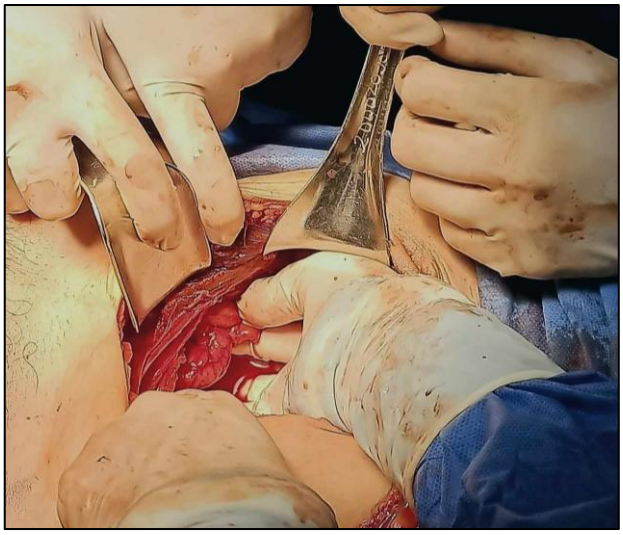

Figure 1: Right inferolateral zone of abdomen with cecal content and also perforated cecal appendix at its base.

DISCUSSION

The importance of an adequate and timely diagnosis in acute appendicitis is crucial for the subsequent evolution of the patient, even more so in cases of Amyand's hernia due to the low usefulness of imaging studies for its diagnosis. The presence of acute appendicitis in an

inguinal hernia without previous diagnostic suspicion, prolongs the time in which the intervention will be performed and consequently increases the morbimortality of the patient in question. Individualized management based on the stage of appendicitis will regulate the conduct to be followed. In the case of our patient, it was considered that a greater benefit would be obtained by performing a hernioplasty at a second time, to reduce the risk of recurrence, as well as infection and rejection of the mesh due to contamination of the placement site.

CONCLUSION

In our country we relay in the clinical suspicion obtained by thousands and thousands of different patients that comes seeking for a solution in the emergency room. In that matter plus a comorbid population and unequal access of health services gives us the opportunity to approach this kind of pathologies in quickly and integral way looking in a retrospective manner with objective of getting early in the next similar abdominal pathologies even of the lack of advanced imaging diagnostic studies

Funding: No funding sources
Conflict of interest: None declared
Ethical approval: Not required

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Cite this article as: Rodriguez MCC, Ordaz DET, Lugo LL, Ortiz DG, Romero JAM, Montes JIDP. Amyand's hernia: a finding in the diagnosis of inguinal hernia. Int J Res Med Sci 2025;13:1261-3.