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Laparoscopic repair of Amyand's hernia: A Case Report

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Summary:

Amyand's hernia is a rare pathology, constituting only 1% of hernia cases, and with inflammatory appendicular pathology it corresponds to 0.1% [1] of reported cases. Open resolution is the most frequent in the literature. We present the case of a 28-year-old male patient who is treated by the Surgery service of the Enrique Garcés Hospital, in the city of Quito-Ecuador, who comes with symptoms of acute appendicitis, which is resolved laparoscopically without complications and he is discharged 24 hours later in good condition.

Keywords: Laparoscopic Resolution, Amyand's Hernia, Case Report

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INTRODUCTION

Inguinal hernias are a common condition, accounting for 75% of hernias seen in daily practice by general surgeons.[2] Amyand's hernia is defined as the presence of the cecal appendix within an inguinal hernia. It represents 1% of inguinal hernia cases, and is even rarer when associated with acute appendicular pathology, accounting for 0.1-0.13% of all cases.[3 [4] It is more frequent on the right side due to its anatomical position; however, it has also been seen on the left side due to a compliant cecum or situs inversus.

The differential diagnosis includes strangulated inguinal hernia with intestine or omentum, Richter's hernia, testicular tumor, epididymitis, among others. In several reports, the treatment is cecal inflamed appendectomy via an inguinal approach, due to the low suspicion of this pathology. Following this, the defect is repaired without mesh. In the case presented, a laparoscopic approach was used due to the patient's clinical presentation of appendicitis.

CASE REPORT

A 28-year-old male patient with a history of untreated HIV presented to the emergency department with a 24-hour history of abdominal pain that began in the mesogastrium and subsequently localized to the right lower quadrant. The pain was rated 8/10 on the VAS scale and was accompanied by nausea, but not vomiting, and anorexia. Physical examination revealed right lower quadrant abdominal pain, positive McBurney's sign, positive Blumberg's sign, positive Ro-Vsing sign, and negative Mussy sign.

Laboratory tests revealed a white blood cell count of 4,660 k/ul, with neutrophils of 67.7% and lymphocytes of 20.8%, hemoglobin of 16.5 gr/dl, hematocrit of 48%, a platelet count of 321,000 k/ul, and a negative elementary and microscopic urine examination. Guided mainly by the clinical presentation and the patient's characteristics, it was considered to be acute appendicitis, and therefore the surgical decision was made.

Under general anesthesia, following safe surgery protocols, and antibiotic prophylaxis with aminopenicillin + beta-lactamase inhibitor, a laparoscopic appendectomy and inguinal herniorrhaphy were performed, with the following findings: a cecal appendix in a pelvic position, approximately 8 x 1 cm, in a suppurative phase with partial introduction into deep inguinal ring along with its mesentery, in an approximate path of 4 cm, with multiple adhesions towards the hernial sac.

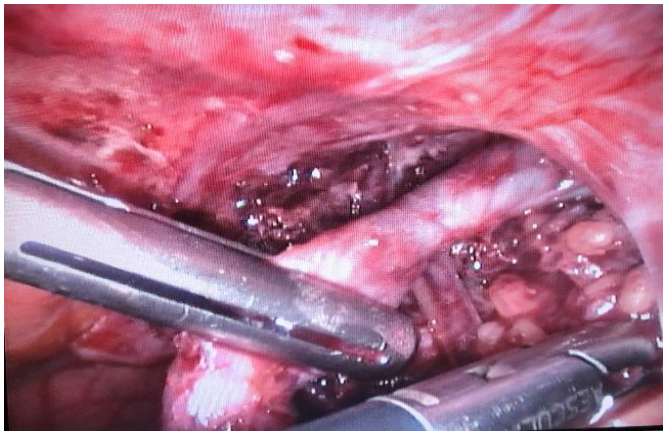

Illustration 1. Laparoscopic dissection of the appendix inserted into the deep inguinal ring.

Post-surgical management consisted of combined analgesia with paracetamol and tramadol, intravenous fluids, and resumption of a diet, with gradual progression according to tolerance. Twenty-four hours later, the patient tolerated oral intake well, there were no alterations in hemodynamic status, and pain was adequately controlled. Therefore, the patient was discharged with instructions for hygiene and dietary recommendations and oral analgesics.

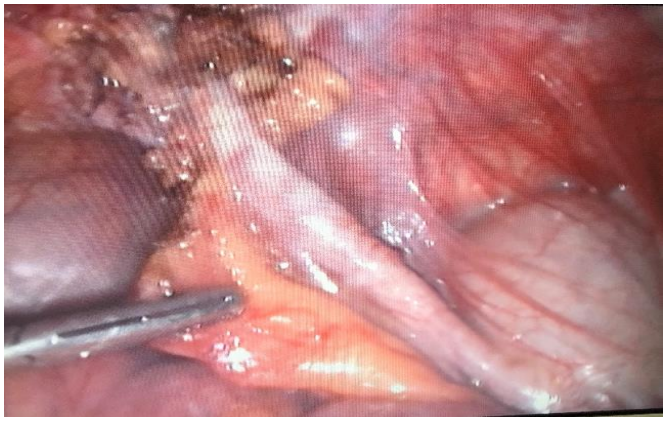

Illustration 2. Appendix released from the inguinal ring.

DISCUSSION AND RECOMMENDATIONS

Amyand's hernia is defined as the presence of the vermiform appendix, which may be normal, inflamed, and/or perforated, within an inguinal hernial sac.[5] Medical literature describes it as representing 1% of inguinal hernias, and as acute appendicular pathology, between 0.1% and 0.13%, a condition diagnosed intraoperatively.[3][4][5][6] It as a bimodal age distribution, being more frequent in neonates and the elderly.[1]

This condition was first described on December 6, 1735 by the English surgeon, Claudius Amyand.[6][7] D'Alia et al. report a single case of complicated Amyand's hernia in a review of more than 1300 surgically repaired hernias.[8] The reported mortality rate is 15 to 30% due to sepsis of abdominal origin.[3]

The pathophysiology of the hernia is uncertain, but two theories are mentioned: the first is a congenital appendiceal hernia due to a fibrous connection between the testicle and the cecal appendix; this would probably explain the higher frequency in neonates; the second theory is due to laxity of the fixation tissue of the ascending colon, since in some cases the cecum is included in the hernial sac.[9]

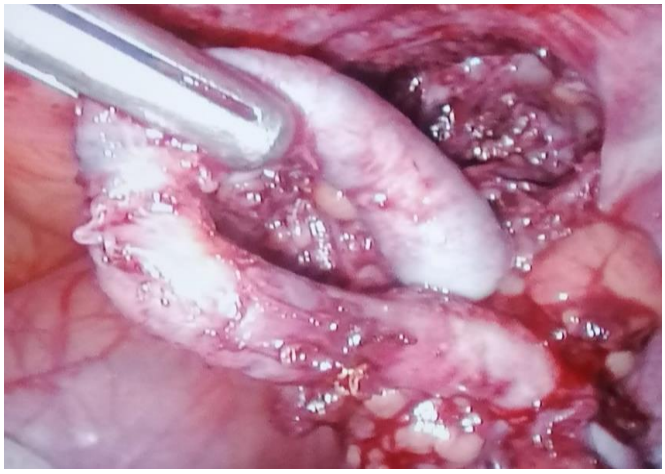

Illustration 3. Appendix removed from the inguinal canal

Preoperative diagnosis is very rare; suspicion arises when there are typical symptoms of acute appendicitis plus an inguinal mass, but most of the time, intraoperative findings provide the definitive diagnosis.[6][7] Imaging studies are important in confirming the preoperative suspicion. Ultrasound shows a blind tubular structure with thickened walls within the hernial sac, connected to the cecum. Computed tomography allows direct visualization of the appendix within the inguinal canal, especially in sagittal and coronal projections.[9][10]

All authors conclude that prosthetic meshes should not be placed in the hernial defect if there is an inflamed appendix, due to the increased contamination, for which it is recommended to repair using Bassini or Shouldice techniques.

Losanoff and Basson stratified the Amyand Hernia types and proposed their respective treatment, which is summarized in Table 1.

Amyand type I hernia, with a normal cecal appendix, should be treated by reducing the herniated contents; no favorable evidence has been found for performing an appendectomy [6] ; Amyand type II hernia, with signs of acute appendicitis but without abdominal sepsis, is managed with appendectomy followed by hernioplasty; Amyand type III hernia, a laparotomy, appendectomy, and hernioplasty without mesh are performed; and Amyand type IV hernia, in which abdominal sepsis and/or other additional concomitant intra-abdominal pathologies are evident, the treatment is similar to type III, plus resolution of the concomitant pathology.[1][11]

However, there are reports of the placement of polypropylene mesh and/or biological mesh in Amyand type II hernias, without complications.[1][6]

Table 1: Amyand's classification of hernia and its corresponding surgical treatment.

Guy	Characteristics	Treatment
Type I	Normal appendix within an inguinal hernia	Hernia reduction and mesh placement
Type II	Signs of acute appendicitis without evidence of abdominal sepsis	Appendectomy + Hernioplasty
Type III	Acute appendicitis with signs of abdominal or wall sepsis	Laparotomy + Appendectomy + Hernioplasty
Type IV	Acute appendicitis with evidence of abdominal pathology outside the hernial sac	Appendectomy + Hernioplasty (if treatment of adjacent pathology is necessary)

Hernioplasty: technique with tension and without mesh placement.

CONCLUSIONS

The infrequent presentation and diverse symptoms of Amyand's hernia often distort the diagnosis, but a high index of suspicion and supporting imaging confirm the preoperative diagnosis. Treatment for Amyand's hernia is surgical regardless of its presentation; however, it is well documented that placing a prosthetic mesh for hernia repair during the same surgical procedure could complicate the outcome with surgical site infection. There are few cases in which the hernial defect was reinforced with a mesh, and there are still no convincing recommendations regarding this approach. In our case, a laparoscopic solution was chosen, which was successful and without complications, offering the advantages of laparoscopic surgery. While there is still no clearly established evidence on the management of Amyand's hernia, laparoscopic surgery could be recommended as a management guideline.

LITERATURE

1. PL Burgess, JR Brockmeyer, and EK Johnson, “Amyand hernia repaired with Bio-A: A case report and review,” *J. Surg. Educ.* , vol. 68, no. 1, pp. 62–66, 2011.
2. Mulholland M et al, Greendfield's Surgery Scientific Principles & Practice, 6th edition, Wolters Kluwer, Columbus-Ohio.
3. GE Ornelas-Cortinas *et al.* , "Acute appendicitis in Amyand's hernia: ultrasound findings and histopathology correlation. A case report," *J. Surg. Case Reports* , vol. 2019, no. 11, pp. 1–3, 2019.
4. A. Morales-Cárdenas *et al.* , “Amyand hernia: Case report and review of the literature,” *Ann. Med. Surg.* , vol. 4, no. 2, pp. 113–115, 2015.
5. SI Bhatti, MU Hashmi, U. Tariq, HI Bhatti, J. Parkash, and Z. Fatima, “Amyand's Hernia: A Rare Surgical Pathology of the Appendix,” *Cureus* , vol. 10, no. 6, 2018.
6. Y. Shaban, A. Elkbuli, M. McKenney, and D. Boneva, “Amyand's hernia: A case report and review of the literature,” *Int. J. Surg. Case Rep.* , vol. 47, pp. 92–96, 2018.
7. AL Komorowski and JM Rodriguez, “Amyand's hernia. Historical perspective and current considerations,” *Acta Chir. Belg.* , vol. 109, no. 4, pp. 563–564, 2009.
8. C. D'Alia *et al.* , “Amyand's hernia: Case report and review of the literature,” *Hernia* , vol. 7, no. 2, pp. 89–91, 2003.

9. HN Shekhani, S. Rohatgi, T. Hanna, and J. Johnson, “Amyand hernia: a case report,” vol. 10, no. 12, pp. 7–11, 2016.
10. S. Constantine, “Computed tomography appearances of amyand hernia,” *J. Comput. Assist Tomogr.* , vol. 33, no. 3, pp. 359–362, 2009.
11. VK Mishra, P. Joshi, JV Shah, C. Agrawal, D. Sharma, and K. Aggarwal, “Amyand's hernia: A case of an unusual inguinal herniace,” *Indian J. Surg.* , vol. 75, no. 1 SUPPL., pp. 469–471, 2013.