AMYAND’S HERNIA, UNVEILING A UNIQUE PRESENTATION IN HERNIA SURGERY: A CASE REPORT

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ABSTRACT

Amyand’s hernia, characterized by the appendix within a hernial sac, is rare. We present a unique case in a 66-year-old deaf, non-verbal male with bilateral groin swelling initially suggestive of bilateral inguinal hernias. Intraoperatively, we discovered a right-sided Amyand’s hernia concurrent with bilateral pantaloon hernias. Treatment involved bilateral inguinal hernioplasty and appendectomy, tailored to the patient’s needs. The postoperative period was uneventful. Our report significantly enriches Amyand’s hernia literature, addressing diagnostic and treatment complexities. Our case is noteworthy due to the exceptional occurrence of bilateral hernias in a deaf-mute Amyand’s hernia patient, posing ethical challenges during consent and necessitating the involvement of the patient’s elder son. Documenting these intricate ethical and surgical issues in this rare case provides valuable insights for surgeons encountering similar scenarios, thereby advancing the field.

INTRODUCTION

Amyand’s hernia is a rare type of inguinal hernia where the appendix is located within and/or incarcerated in the hernia sac. Incidence as rare as 0.1%, Amyand’s hernia continues to be an intriguing discovery to the surgeon during the time of surgery. It was 1700 when Amyand Claudius first discovered the appendix as a content of hernial sac in an 11-year-old boy. Hence the name was given. Not only did Claudius encounter the hernia, but the first appendectomy in history was also performed by him. Even though a majority of the cases contribute incidental intraoperative discoveries, occasionally it is diagnosed preoperatively through imaging modalities. In 0.1% of cases it is brought to the surgeons’ attention due to complications such as appendicitis or perforation. Management of Amyand’s hernia is based on Lossanoff and Basson’s classification but the decision to preserve the normal appendix is currently personalized.

CASE REPORT

A 66-year-old gentleman arrived at the general surgery outpatient department accompanied by his son, presenting with complaints of swelling in both groins. He had been deaf and mute since birth. Due to his inability to communicate verbally and the fact that the hernia did not significantly...
affect his daily life, he never sought medical attention before. According to his son, the patient has had this swelling since birth, but it has recently been growing in size. The swelling is non-painful, and it has extended to the bottom of the scrotum. It increases during coughing and straining, and it disappears completely while he lies down. The patient has no other medical conditions.

During the examination, bilateral inguinoscrotal swellings were observed. The size of the swelling on the right side was approximately 4×5 cm, while on the left side it measured 7×5 cm. The swelling was reducible but reappeared when coughing. Palpation revealed that the hernias had a soft to firm texture. No audible bruit or bowel sounds were detected upon auscultation. Ultrasonography (USG) of the bilateral inguinal region was performed, revealing herniation of bowel loops reaching the scrotal sac. All other laboratory parameters were within normal range.

Figure 2: Intraoperative Image: Right inguinal hernia repair with appendix as a content revealed (White arrow). Left inguinal hernia repair achieving hemostasis with sterile gauze-pad compression (Black arrow).

During the surgery, we observed indirect hernias on both sides, with the hernial sac extending into the scrotum after traversing the inguinal canal. On the right side, the hernial content was identified as the appendix, while on the left side, it was identified as an enterocoele. Despite the appendix not being inflamed, we found that the mesoappendix had adhered to the hernial sac. Consequently, we conducted an appendectomy following an intraoperative discussion with the patient's son. We performed tension-free mesh repair using the Lichtenstein technique bilaterally and inserted a Romovac drain. After closing the skin and applying wound dressings, the postoperative period progressed without complications. The patient was discharged on the fourth day following surgery and scheduled for a follow-up appointment three days later to remove the drain.

DISCUSSION

Amyand's hernia is when the hernial sac comprises the vermiform appendix. The incidence varies from 0.19-1.7%. The appendix could be normal or inflamed in which the incidence of the latter is 0.07-0.03%.

Amyand's hernia predominantly affects male patients who typically present with uncomplicated groin hernia. It is more common in males due to the higher prevalence of right inguinal hernias. The condition can occur in a wide age range, with a higher incidence in children due to the patent processus vaginalis. Right-sided hernias are more common than left-sided ones, accounting for approximately 9.2% of cases in a 20-year systematic review. Amyand's hernia has also been reported in cases of situs inversion, mobile cecum, and intestinal malrotation.

The pathophysiology of Amyand's hernia involves theories such as the fibrous connection between the appendix and testicles, the patent processus vaginalis, and congenital laxity of the right colon, leading to hernia incarceration and subsequent strangulation; when the appendix becomes inflamed, it accounts for 0.1% of appendicitis cases.

Diagnosing Amyand's hernia is challenging clinically, as most cases present as a right inguinal swelling, and physical examination typically reveals a clear-cut diagnosis of inguinal hernia without indicating appendix involvement; even with imaging, pre-operative diagnosis is rare, occurring in approximately 1 in 60 cases.

Imaging is crucial in ruling out intra-abdominal complications. Routine USG is unreliable for diagnosing Amyand's Hernia. Although not routine, CT is more sensitive and specific.

The treatment approach for Amyand's hernia takes into consideration factors such as the extent of appendix involvement, surgeon expertise, and individual case considerations. A classification system proposed by Losanoff and Basson in 2007 (table 1), later modified by Singal et al., (table 2) helps guide surgical management. The ongoing debate revolves around whether to perform appendectomy concurrently with hernia repair. Some authors recommend...
appendectomy in all cases to prevent future complications, while others suggest omitting appendectomy if the appendix is non-inflamed to reduce postoperative complications. However, left-sided Amyand’s hernia with a non-inflamed appendix is an exception, as preventive appendectomy is advisable due to the risk of delayed appendicitis diagnosis. The decision to remove the appendix should consider patient age, life expectancy, appendicitis risks, and appendix characteristics. Mesh repair may be considered in non-inflamed appendix cases, similar to our case where prolene mesh repair was performed bilaterally. However, the limited literature on this subject leads to a lack of conclusive evidence regarding the success rate of mesh use in Amyand’s hernia repair. The traditional approach for Amyand’s hernia involves appendectomy through an inguinal incision, followed by hernia repair. However, the laparoscopic approach is gaining popularity, aided by preoperative imaging for accurate staging and appendix assessment. In our case, although the appendix itself was not inflamed, the meso appendix was adhered to the hernial sac, posing potential future complications or difficulties. Moreover, the patient’s unique hearing and speech impairment since birth made it challenging to communicate any future appendix-related symptoms. Therefore, to mitigate potential risks and ensure the patient’s well-being, an appendectomy was performed during the hernia repair procedure, despite the appendix being non-inflamed.

**CONCLUSION**

Amyand’s hernia though it’s a rarity there is an increasing need to facilitate preoperative diagnosis to plan the treatment of the patient. The management approach is controversial and depends on multiple factors. However, laparoscopy is slowly gaining popularity as the surgical management of choice as there has been improvement in preoperative diagnosis using USG and CT.

### Table 2: Amyand hernia classification after Rikki’s modification

<table>
<thead>
<tr>
<th>Classification</th>
<th>Description</th>
<th>Management</th>
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<tbody>
<tr>
<td>Type 1</td>
<td>Normal appendix in an inguinal hernia</td>
<td>Hernia reduction and mesh replacement</td>
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<tr>
<td>Type 2</td>
<td>Acute appendicitis in inguinal hernia without abdominal sepsis</td>
<td>Appendectomy, primary hernia repair without prosthesis</td>
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<tr>
<td>Type 3</td>
<td>Acute appendicitis in inguinal hernia with sepsis of the abdominal and/or peritoneal wall</td>
<td>Laparotomy and appendectomy, primary hernia repair without prosthesis</td>
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<tr>
<td>Type 4</td>
<td>Acute appendicitis in inguinal hernia with concomitant abdominal disease</td>
<td>Same as type 3 plus concomitant disease management</td>
</tr>
<tr>
<td>Type 5a</td>
<td>Normal appendix in an incisional hernia</td>
<td>Hernia reduction, primary hernia repair including mesh replacement</td>
</tr>
<tr>
<td>Type 5b</td>
<td>Acute appendicitis in incisional hernia without peritonitis</td>
<td>Hernia appendectomy, primary closure of fascial space, no prosthetic hernia repair</td>
</tr>
<tr>
<td>Type 5c</td>
<td>Acute appendicitis within an incisional hernia with peritonitis or sepsis of the abdominal wall or in relation to a previous surgical procedure</td>
<td>Same as type 4</td>
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### REFERENCES:


