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# AMYAND'S HERNIA IN AN 83 YEARS OLD FEMALE PRESENTED WITH TENDER RIGHT INGUINAL MASS INMAYO GENERAL HOSPITAL-IRELAND – CASE REPORT

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## ABSTRACT

Amyand's hernia is defined as when the appendix is trapped within an inguinal hernia. Inguinal hernia is a common type of hernia with usual content being the omentum or the bowel, but in amyand's hernia the appendix will be in the inguinal hernia and is usually complicated appendictitis if it was inflamed. And because of that when the patient presents with appendicitis, then is often misdiagnosed as a strangulated hernia. Here we present an 83 years old lady presented with painful Lump at the right groin and was found to have appendicular Abscess in a right inguinal hernia.

**KEYWORDS:** Amyand's hernia is defined as when the appendix is trapped within an inguinal hernia.

## CASE PRESENTATION

83 years old lady known to have Afib, IHD, uterine prolapse, old history of breast cancer, Alzheimer's disease. Presented to our facility on April 24th 2023 with the complain unwitnessed fall at home and tender right groin swelling for one week duration. She has no associated Fever, nausea, vomiting, and opening bowel normally with occasions of intermittent constipation. No itchiness over the swelling, no History of weight loss or night sweats. Patient past medical History was as the above and has no allergies to any medication, no history of smoking.

On examination: patient is vitally stable afebrile, with soft lax abdomen. On the right groin

there was irreducible swelling of about 3 cm by 4 cm non fluctuant soft swelling without any cough impulse. Tender to touch. No other lymphadenopathy noted on examination. on auscultation here bowel sounds were normal and no bowel sounds or bruit elicited over the swelling. Her laboratory tests revealed the following: WBC 18.9 Hb: 13 Neutrophils: 16 CRP: 135.9, Lactate: 1.9. plain Chest Xray: showed no air under diaphragm and AXR showed normal Bowel gas pattern. US groin done on 24/4/2023 and showed large (7 cm) heterogenous abnormality in the right inguinal region that need further assessment with CT scan. So CT abdomen and pelvis with contrast done on the next day and showed inflammatory process in the right inguinal hernia which might contain inflamed perforated appendix Along with fluid and air within the right inguinal hernia and extend to the skin surface representing abscess sizing 4X5 cm. No bowel obstruction demostarted.

Patient was Managed conservatively and was kept on Antibiotic, and the abscess cavity was drained radiologically followed up with decrease in her inflammatory markers and was tolerating orally well. till she was fit for discharge after 7 days hospital stay. She will be followed up in clinic.

**DISSCUSSION**

Amyand's hernia is defined as when the appendix is trapped within an inguinal hernia. While the incidence of this type of hernia is rare, the appendix may become incarcerated within Amyand's hernia and lead to further complications such as strangulation and perforation.[1,2,4] Ventral abdominal and inguinal hernias typically contain bowel or omentum; only rarely is the appendix discovered, often incidentally, within the herniated region.[5] Definitive preoperative diagnosis presents a clinical challenge due to indistinct clinical signs and symptoms and a lack of clear radiological diagnostic features. Incarcerated appendix or appendicitis, for example, is often misdiagnosed as a strangulated hernia.[6]

Incarceration of the appendix most commonly occurs within inguinal and femoral hernias, but may arise to a lesser extent in incisional and umbilical hernias. Incarcerated appendix has been reported in a variety of ventral abdominal and inguinal locations, yet its indistinct clinical presentation represents a diagnostic challenge.[1]

The History of amyand's Hernia Goes back to the surgeon Claudius Amyand's, who, on December 6, 1735, performed the first successful appendectomy during the treatment of an 11-year-old boy who presented with a right inguinal hernia. During the surgery, Amyand's

found a pin within the appendix, which was encrusted with stone; the appendix was found within the inguinal hernia sac.[7]

The incidence of Amyand's hernia has varied in the literature, ranging from 0.19% to 1.7% of reported hernia cases and tend to be on the right more than the left side and in male and if it was found in female it is usually in postmenopausal.[4,8,9] Although less common, incarcerated appendix may appear within a left-sided inguinal hernia. To date, 7 such patients with left-sided Amyand's hernia been described in the English literature in both males and females, ranging in age from 9 months to 81 years.[11,15] The unusual left-sided presentation may be associated with situs inversus, intestinal malrotation, or with a mobile cecum.[16] In these instances, appendectomy is performed if the base of the cecum is accessible through the hernial sac; if it is not, surgeons may opt to perform an open appendectomy through a low-midline laparotomy incision. Suggested performing an appendectomy in cases of left sided Amyand's hernia, even if the appendix is normal, since potential appendicitis in the future would have an atypical presentation, which may delay its diagnosis.[17] Due to anatomical differences (patency of processus vaginalis) aymand's hernia was found to be three times as common in children.[18]

The incidence of appendicitis within an inguinal hernia is even rarer; with an estimated rate at 0.07– 0.13%[9] Although incarceration of the appendix within an inguinal hernia does not always lead to appendicitis, this is not an uncommon finding. Ash et al. suggested a relationship between incarceration of the appendix in the inguinal canal and the development of inflammation. They provided an account of appendiceal migration into the inguinal canal, leading to increased vulnerability to trauma and compromised blood supply, followed by generalized inflammation andbacterial overgrowth.[10]

Common complaints include sudden-onset epigastric or periumbilical pain with localized tenderness in the right lower quadrant, combined with a tender irreducible mass in the inguinal or singuinoscrotal region.[9,19]

Due to the rare presentation Cases of definitive preoperative diagnosis are rare, and diagnosis is generally made during surgery.[5,20,21,22,23] Abdominal exam, physical signs, lab results, and imaging are not always helpful in differential diagnosis.

Diagnostic imaging modalities not yet solid to confirm the diagnosis of aymand hernia

preoperatively. Although CT scanning may be helpful in reaching a correct diagnosis, it is usually not part of the standard diagnostic workup when simple inguinal hernia is suspected.[24] Ultrasonography will be unreliable because it is heavily dependent upon the technical skill of the operator.[25]

Historically, the management of Amyand's hernia was based on Losanoff and Basson's criteria as shown in table 1[26]: (1) normal appendix within the inguinal hernia, (2) hernia with inflamed appendicitis, (3) hernia with perforation of the appendicitis, and (4) complications including abscess or malignancy. In subtype 1, Losanof and Basson suggest Amyand's hernia may be managed with reduction or appendectomy, depending on comorbidities, and mesh hernioplasty. Subtypes 2-4, all with abnormalities of the appendix, require appendectomy and hernia repair without the use of mesh. Removal of the appendix may be performed by entrance through the hernia in cases of uncomplicated appendicitis, while laparoscopic appendectomy should be used in those complicated by abscess, perforation, or malignancy.[26]

**Table 1: Four Types of Amyand's Hernia and Management of Each Type Based on Losanof F. and Basson's Criteria.[26]**

| Type | Description | Surgical Management |
|---|---|---|
| Type 1 | Normal appendix with an inguinal hernia Hernia usually in young patients | reduction, mesh repair, appendectomy |
| Type 2 | Acute Appendicitis within an inguinal hernia, no abdominal sepsis | Appendectomy through hernia primary endogenous repair of hernia no mesh |
| Type 3 | Acute Appendicitis within an inguinal hernia, abdominal wall or peritoneal sepsis | Laparotomy appendectomy primary repair of hernia no mesh |
| Type 4 | Acute appendicitis within inguinal hernia related or unrelated abdominal pathology | Manage as type 1 to 3 hernia investigate or treat second pathology as appropriate |

Due to the rarity of Amyand hernias, the surgical management may pose somewhat of a challenge for general surgeons as the majority of these are discovered at the time of operation.[27] So the management will be challenging in term of of hernia repair using mesh or only tissue repair and removal of the appendix. As high as a 50% infection rate may exist following their repair when the appendix is acutely inflamed,[27] making repair with mesh controversial. A large amount of newer literature exists in the field of surgery advocating the use of mesh in clean-contaminated or contaminated ventral hernia cases, there is a paucity of literature regarding Amyand hernia repair success rates or mesh use.[26] Another decision that must be considered is whether to proceed with incidental appendectomy when the intraoperative diagnosis is made and a patient has a normal appearing appendix. The benefits

to proceeding with appendectomy can avoid additional future operations with their respective morbidities.[28] Old case reports suggested repairing aymand hernia with tissue repair and newer ones suggested repairing it lightweighted mesh given that at the appendix is normal.[29]

It has been hypothesized that the appendix is vulnerable to trauma when it enters the hernial sac, local adhesions cause the appendix to become incarcerated which could result in changes in the intraluminal pressure causing inflammation of the appendix and subsequent migration of intraluminal microorganisms into the appendix wall.[30,31] And There are some that advocate appendectomy in all cases of Amyand's hernia. As they generally believe that the appendix is prone to relocate within the hernia, and manipulation of the appendix during reduction may lead to appendicitis.[32,34] Following a successful laparoscopic appendicectomy one could consider an interval hernia repair at a later date to prevent possibility of mesh sepsis and surgical site infection.[35,39]

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