

When the General Surgeon Encounters the Amyand's Hernia

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Abstract

The Amyand's Hernia is a rare form of inguinal hernia containing the appendix. It is well known from centuries since Claudius Amyand described it first in 1735 linked closely to the first appendectomy. It represents 1% of inguinal hernias and is most common in children and in the right side. Even though it is a curious finding it is interesting the fact that for centuries its management was left in the surgeon's preference. It is only in 2007 that Losanoff and Basson described its classification and best treatment.

We describe our case in the hospital of Durres and how we reasoned to manage it. Even though we were in doubt to perform or not appendectomy we did it based on the reasons we describe in the article and we did Lichtenstein hernia repair.

The patient had a good recovery but as you will read through the article there are many tremendous complication linked to a wrong management and technique which are described previously in the literature worldwide so no surgeon should overlook or underestimate the treatment of this special rare type of hernia.

Keywords: Surgery; Amyand; Inguinal Hernia; Losanoff; Basson; Necrotising Fascitis; Lichtenstein; Durres; Albania

Introduction

An Amyand's Hernia is a rare form of inguinal hernia in which the vermiform appendix is contained in the hernia sac.

Its name derives from the French surgeon Claudius Amyand who performed the first successful appendectomy in 1735 at St. George's Hospital in England. The patient was an 11-year boy named Hanvil Anderson who had an inguinal hernia combined with an acutely inflamed appendix. This situation, where the appendix is included in the hernia sac was named an Amyand's hernia. Amyand described the operation himself in a paper for the Royal Society [1].

It represents less than 1% of the inguinal hernias with age range from 3 weeks and older and it is most common in children because of a patent processus vaginalis. Obviously it is most common in right inguinal hernias and only in any very rare case of situs inversus can be present on a left inguinal hernia [2].

For years and centuries the Amyand hernia represented just a curious incidental finding during an inguinal hernia operation but in the last 10 years the surgical community worldwide questioned itself whether it was safe or not to perform appendectomy and when specifically since it was left at the surgeon's preference.

Some studies in the literature at the other hand showed relatively high and various complication rates for the surgery of the Amyand Hernia [3]. We will focus on those complications below because we think any surgeon should keep these cases in mind and never underestimate the bad management of an Amyand's hernia.

In fact Lyass, *et al.* reported an abdominal abscess as a result of a perforated appendix in an inguinal hernia [3] while Kueper, *et al.* reported Amyand's hernia containing a perforated appendix and complicated with periappendicular abscess [4].

It goes on with the work of Serrano and Ackerman who reported an incarcerated right inguinal hernia that contained a perforated appendix along with an inflamed right testicle and spermatic cord; all of which had to be removed [5]. Amyand's hernia with perforated appendix can present with testicular ischemia in neonates as well [6].

Figure 1: Schematic representation of the Amyand's hernia anatomy.

Strangulated Amyand's hernia has been reported with hyperemia and hemorrhagic infiltration within the hernial sac [7]. Franko, *et al.* reported a variation in which the appendix had protruded through the internal inguinal ring, but remained outside the hernia sac [8].

And last but not the least (probably the worst) a severe complication, first reported by Marron, *et al.*, is necrotizing fasciitis of the anterior abdominal wall secondary to bowel perforation [9]. Similarly a case to be emphasized also was reported by Osorio, *et al.* in which a 91-year-old woman presented with Amyand's hernia complicated by necrotizing fasciitis of the inguinal region, and additional ipsilateral Richter's hernia [10].

In 2007, Losanoff and Basson proposed a classification [11] when facing this rare condition (See table 1).

Classification	Description	Management
Type 1	Normal appendix in an inguinal hernia	Hernia reduction, mesh placement
Type 2	Acute appendicitis in an inguinal hernia with no abdominal sepsis	Appendectomy, primary no prosthetics hernia repair
Type 3	Acute appendicitis in an inguinal hernia with abdominal and abdominal wall sepsis	Laparotomy, appendectomy, and primary no prosthetic hernia repair
Type 4	Acute appendicitis in inguinal hernia with abdominal concomitant pathology	Same as type 3 plus management of concomitant disease

Table 1: Losanoff and Basson classification of Amyand Hernia.

Case Description

We present hereby the “fresh” case of one of our patients who presented at the Emergency Department of the Durres Hospital.

Our patient was a man of 65 years of age otherwise healthy who presented at the emergency with pain in his right groin at the site of a hernia bulge protrusion.

He referred to have had this hernia bulge for some years but without past episodes of pain. The patient also admitted that the bulge always reduced when he laid down to bed and protruded during cough or heavy work.

In the last 6 - 8 hours the pain was referred as progressive and the bulge was not reducible by any maneuver or position. He denied fever, vomiting or obstipation.

During the physical examination this bulge was dolorable at palpation and sensible to the cough impulse. The skin above was tender and slightly red.

After the thorough clinical examination which showed clearly a strangulated right inguinal hernia an abdominal ultrasound comprising the inguinal abdominal wall area was performed which confirmed the diagnosis showing a loop of small bowel in the hernia sac.

The blood tests resulted normal without increase in the white blood cell count or inflammation indexes and the biochemical (chem 7) analysis were at normal range.

Thus, after the consultation from the anesthesiology team the patient was taken at short time in the OR.

A right inguinal incision was performed and after that the hernia sac was identified and divided from the spermatic chord. The sac was opened and showed a small loop of vital small intestine and more interestingly the appendix adhered to the peritoneum of the sac as in the figure below.

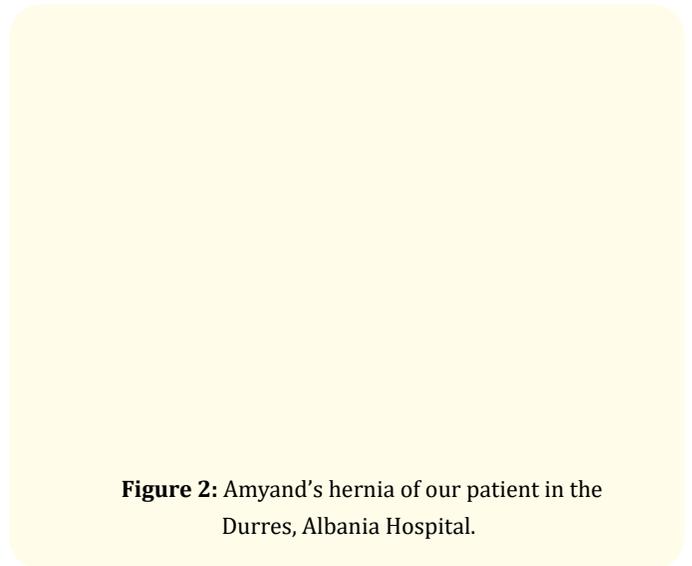


Figure 2: Amyand's hernia of our patient in the Durres, Albania Hospital.

The walls of the appendix seemed somehow thicker than usually but we were in doubt whether it was an acute appendicitis.

All in all after considering all the tight adhesions with the excess hernia sac we preferred to perform a trans-hernia sac appendectomy. The hernia defect repair was done in the classic Lichtenstein operation with a polypropylene mesh [11].

The post operative recovery was uneventful with the patient starting liquid diet the 1st post op day and eliminating gases the 2nd postoperative day.

At present 2 months after the intervention the patient is in good clinical conditions and all the routine examinations are normal.

Conclusion

The Amyand's hernia [1] is a rare interesting finding when opening a right inguinal hernia sac or very rarely when situs visceralis inversus is present a left inguinal hernia sac, yielding 1% of all hernia cases [2]. It is most common in children. For centuries no surgeon asked if appendectomy was safe or not to be performed in this case until in 2007 when Losanoff and Basson [11] elaborated a classification and decision taking for this type of hernia.

Recently our team encountered such a case in the hospital of Durres and we made ourselves the same question whether it was safe to perform appendectomy because it was classified as class 1 according to the Losanoff and Basson classification. In the end we did it and placed prosthetic mesh for the hernia defect repair with the patient doing well to date.

We think that no surgeon should under evaluate or take for granted the parsimony of the management of the Amyand's hernia [6].

Keep always in mind that one of the worst complications of an appendectomy performed badly or unnecessarily can lead to necrotizing fasciitis [9], a tremendous complication.

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