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A Rare Case of Amyand's Hernia - A Case Report with Review of Literature

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Abstract: *Inguinal Hernia is undoubtedly a very common case dealt by every surgeon all over the world. Amyand's hernia is an extremely rare variety of hernia in which the inguinal hernia sac contains the appendix. This unusual situation is estimated to occur in approximately 0.6 to one percent of adult inguinal hernia cases. Te pre-surgical diagnosis of Amyand's hernia is exceedingly difficult. This article presents a case study of this rare variant — reported for the time in our department of surgery of this district teaching institution. This article is presented for the rarity of the case and for the documentation of presence of healthy guy (appendix) to be a part of deceased scenario (hernia sac.)*

Keywords: *Amyand's hernia*

I. Introduction

"It is easy to conceive that this operation was as painful to the patient as laborious to me".

This was the comment given in the "philosophical Transactions of the Royal Society: (1) in 1736 by Claudius Amyand (1650-1770), a French refugee surgeon of George II and Chief Surgeon at St George and the Westminster Hospital of London who performed the first recorded successful appendicectomy in 1735, the patient being Havil Handerson, and 11Year-old boy with right inguinal hernia. During the half-hour surgery, he found the appendix in the hernia sac and a fistula tract from the perforation to the appendix (which he traced with a pin). The boy recovered, but the hernia recurred.

Inguinal Hernia is undoubtedly a very common case dealt by every surgeon all over the world. Amyand's hernia is an extremely rare variety of hernia in which the inguinal hernia sac contains the appendix. This unusual situation is estimated to occur in approximately 0.6 to one percent of adult inguinal hernia cases. Amyand's hernia means that the appendix protrudes through an inguinal hernia sac. Many articles refer to Garengeot as the first one to fine a non-swollen appendix in an inguinal hernia sac, but it was Amyand who performed surgery on a swollen appendix which by chance was inside an inguinal hernia sac, 144 years before Tate, and 150 years Hall in the Roosevelt Hospital in New York in 1885.

This article presents it case study of this rare variant — reported for the first time in our department of surgery of this district teaching institution. This article is presented for the rarity of the case and for the documentation of presence of a healthy guy (apendix) to be a part of deceased scenario (hernial sac).

II. Case Report

A 47 year-old gentleman [IP NO.: 11875] without relevant pre-medical history presented with a history of a reducible swelling in the right inguino-scrotal region since three months. At admission, he had stable vital signs and a painless, reducible pyriform swelling of 8 x 5 ems in the right inguinoscrotal region without skin changes. Get above the swelling was negative. Cough impulse was present. Three finger test led to the diagnosis of indirect type of inguinal hernia. Per-Abdominal examination revealed no mass, no scar ; no malgaigne's bulges and per-rectal examination was normal. Left inguino-scrotal region and external genitalia were normal. His complete haemogram, blood sugar and renal function tests showed normal values. His ECG, X-Ray Chest PA view and Plain X-Ray Abdomen Erect were within normal limits. Ultrasound abdomen revealed right inguinal hernia and otherwise normal study. A provisional pre-operative diagnosis of "Right sided Incomplete Indirect Uncomplicated Inguinal hernia" was made. He was therefore scheduled for elective surgery "Right Hernioplasty" after anesthetic assessment and obtaining the informed consent for surgery. He was taken to the operating room and the approach was through the right inguinal region and a healthy lengthy un-inflammed appendix of 13 ems length was completely found inside the sac.[Fig 1,2].

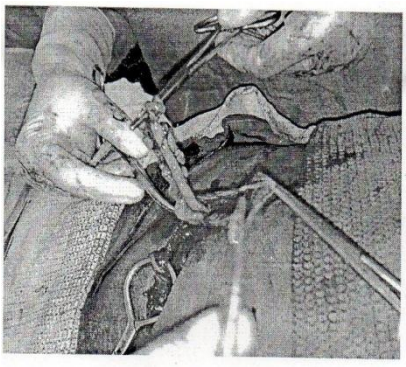

Fig l

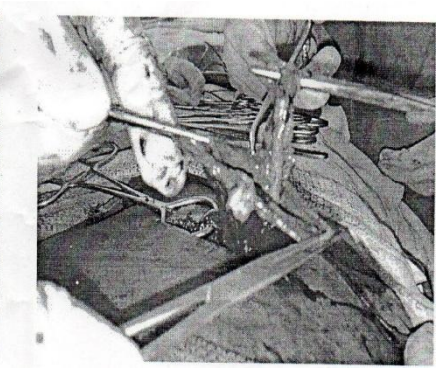

Fig2

The case proceed was discussed on table by the surgeons team and a per-operative diagnosis of "Type-1 Amyand's Hernia " [ref. Table] was made and the perfectly healthy appendix was preserved, reduced back into peritoneal cavity. Hernioplasty was done using a prolene mesh. Post-operative period was un-eventful. He was followed up in our OPD after one week and his inguinal region looked healthy.

III. Discussion

Amyand's hernia is defined as presence of appendix in an inguinal hernia. This rare condition was named after the first surgeon to perform appendicectomy, Claudius Amyand, an English surgeon of the 18th century who first described a case of acute appendicitis in a hernia sac in an 11-year-old child [2]. The first appendicectomy ever to be performed in the USA, more than a century later, was also a case of Amyand's hernia in which an abscess with gangrenous appendicitis was found inside the
hernial sac [3]. The incidence of Amyand's hernia is estimated to occur in approximately one percent of adult inguinal hernia repair cases.

Table : Classification of Amyand's hernias [Losanoff & Basson] [20]

TYPE	DESCRIPTION OF CONDITION	TREATMENT OPTION
1	Normal appendix in an inguinal hernia	Hernia reduction, Mesh repair, Appendicectomy in young patients
2	Acute appendicitis within an inguinal hernia; No abdominal sepsis	Appendicectomy through hernia, primary endogenous repair of hernia, no mesh.
3	Acute appendicitis within an inguinal hernia with abdominal wall or peritoneal abscess	Laparotomy, appendicectomy, primary repair of hernia, no mesh.
4	Acute appendicitis within an inguinal hernia, related or unrelated abdominal pathology.	Manage as types 1 to 3 hernia, investigate or treat second pathology as appropriate

A detailed description of the historical background and the management of Amyand's hernia was presented by R. Hutchinson in 1993 [6]. Other investigators have infrequently presented case reports and literature reviews [7, 8]. The incidence of acute appendicitis occurring in a hernial sac varies between the 0.13% reported by Ryan et al. in 1937 [2] and 1% reported by Carey in 1967 [9]. More recently, C. D'Alia and his colleagues reported their unique case of acute appendicitis within the hernial sac in 1,341 inguinal hernia operations performed over 13 years in Messina University Hospital in 2003 rig . Most reported cases of Amyand's hernia have occurred in the right inguinal region and only a few reported cases have occurred in the left inguinal region [8, 11]. The present case, diagnosed during surgery, is the first reported case of Amyand's hernia in our hospital, a 13 year-old medical college hospital. The body and base of the appendix appeared to be healthy; the lengthy appendix was the finding. Neither turbid ascites nor pus formation was found inside the hernial sac, making an excellent prognosis. We preferred to perform the prolene mesh repair as there was no source of infection. Treatment procedures have been well discussed in many recent case reports, including mesh hernioplasty, endoscopic hernioplasty or the traditional method of hernioplasty, although controversy still exists. The necessity for incidental appendicectomy in a non-inflamed appendix also remains debatable [6]. Sharma et al. briefly discussed the management of Amyand's hernia among 18 patients in a 15-year period, including appendicectomy followed by Bassini's repair, mesh hernioplasty after reduction of a normal appendix, and Bassini's hernia repair plus a lower midline laparotomy for pelvic washout. His strategy depended on the status of the appendix in the sac [12]. In our case, as the appendix was perfectly healthy, the treatment strategy of mesh hernioplasty was carried out. Discussions in recent reports emphasized the incidence and management of Amyand's hernia, highlighting the rarity and causes of the abnormality. Abu-Dalu and Urca have suggested that if treatment of Amyand's hernia is delayed, the appendix becomes more vulnerable to trauma in Amyand's hernia and is ultimately retained by adhesions. Its blood supply may subsequently be cut off or

significantly reduced, resulting in inflammation and bacterial overgrowth. Contraction of the abdominal muscles and other sudden increases in intra-abdominal pressure may cause compression of the appendix, resulting in further inflammation [7]. non-reducibility of the segment. In this case, the lengthy appendix is considered to be a predisposing factor for developing Amyand's hernia and presence of a healthy appendix favoured early uneventful recovery.

Preoperative diagnosis in this unusual condition is difficult. Weber was the only surgeon who reported making the correct diagnosis preoperatively [8]. Multi-planar Computed tomography scans may be useful in diagnosis, but are typically not performed routinely.

The expected complication in this case if left untreated is Hernial appendicitis and strangulated hernia. The treatment for hernial appendicitis is appendicectomy through the herniotomy with primary hernia repair using the same incision [13]. Only Lyass et al. reported a delayed wound closure due to a retroperitoneal abscess secondary to the appendicular inflammation [14]. Mesh is not suggested in the contaminated abdominal wall defects because of greater risk of wound infection and appendiceal stump fistula [13]. Laparoscopic reduction of Amyand's hernia has been described previously [15, 16].

Amyand's hernia is a rare condition that has been diagnosed accidentally during a hernioplasty, and especially an incarcerated inguinal hernia diagnosed in the emergency room. It is closely linked to peritoneal spread of the septic process and may be life-threatening, with an incidence of mortality varying between 14 and 30% [9, 17, 18]; mortality risk is most likely associated with perforated appendix with or without peri-appendicular abscess formation, or even peritonitis [19].

IV. Conclusion

This case-study is presented for

- It's rarity
- For awareness of this clinical entity in pre-operative evaluation and
- To discuss about the accepted treatment strategy.

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