

A rare case of left sided Amyand's hernia with cryptorchidism and non-viable left testis

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Abstract

Presence of appendix in an inguinal hernia is a rare entity and is known as Amyand's hernia. Due to the normal anatomical location, amyand's hernia is more common on right side, however the left sided amyand's hernia is also noted. If the appendix is inflamed, appendectomy and herniorrhaphy is the rule. Here, we report a case of a 32 year old male, with left sided inguinoscrotal swelling since 6 months and pain over the swelling since 6 days. On history, patients had empty scrotum since childhood. Ultrasonography suggestive of testis in the right inguinal canal and left sided hernial sac with compromised vascularity of the testis. Intraoperatively, the non viable devascularized testis found at the deep ring. An indirect hernia was identified with the sac containing omentum and the illeocecal junction with an inflamed appendix as the content. Patient underwent appendectomy, orchidectomy on left side and Bassini's herniorrhaphy. Patient had an uneventful recovery.

Keywords: amyand, cryptorchidism, irreducible hernia, herniorrhaphy, orchidectomy

Introduction

Incidence of Amyand's hernia is very low being 0.51-1% of all inguinal hernias. The incidence of inflamed appendix is seen in only 0.13%. The name was coined in honour of Claudius Amyand, a sergeant-surgeon to King George II of England, who performed the first successful appendectomy in a right inguinal hernia in 1735. Since most cases that have been documented to involve a right inguinal appendix, it is unusual for the appendix to herniate through the left inguinal canal. Presence of bilateral cryptorchidism and HIV-positive status are both peculiar to our case. It's unlikely that the patient's HIV status and the herniation are causally related. However, it was evident that the patient's HIV status had an influence on both intraoperative choices and postoperative care techniques. The presence of the undescended testis is often diagnosed at an earlier age, but in many cases, it maybe diagnosed in the later life. The presence of inguinal hernias with the undescended testis as the content of the hernia is a rare entity and often misdiagnosed. The presentation of an inguinal swelling due to cryptorchidism, mimicking inguinal hernia in the 4th decade is rare.

Case Report

A 32 year old male patient, with RVD positive status presented with the complaints of left sided irreducible inguinoscrotal swelling since 6 months with complaints of pain over the swelling since 6 days and history of fever since 3 days. Patient had no altered bowel habits or any other complaints. On history, patient had empty scrotum since childhood for which he did not seek medical attention. On clinical examination, patient had empty scrotum, left incomplete inguinal hernia of size 8x6cm, with no local warmth yet mild tenderness present over the swelling. On examination, patient was febrile, his pulse rate was 90 beats/minute and his blood pressure was 110/60 mmHg. Laboratory investigations were within normal limits as WBC count of 8,600/mm³, CD4 counts of 303 cells/microL.

Plain X-ray chest and abdomen were normal with no signs of intestinal obstruction.

The ultrasonographic scan was done of the empty scrotum and hernial sac which revealed a left sided irreducible inguinal hernia with omentum as content and compromised vascular supply to left testis. Right testis visualised in the inguinal region.

Patient was taken for surgery under spinal anaesthesia, incision was taken in the inguinal region. Intraoperatively, the testis found at the deep ring with bluish discoloration. An indirect hernia was identified with the sac containing omentum and the illeocecal junction with an inflamed appendix as a content of hernia sac. Appendicectomy was done and hernial contents reduced into the abdominal cavity. Testis was found to be devascularised for which left sided orchidectomy was done and Bassini's herniorrhaphy was performed. (figure 1).



Fig 1: showing the inflamed appendix in left inguinal hernia sac

Discussion

The incidence of having a normal appendix within an inguinal hernial sac is about 1% whereas only 0.1% of all cases of Amyand’s present with an inflamed appendix. Most of the cases occur on the right side [4], probably because of the normal anatomical position of the appendix [1] and hence right-sided Amyand’s hernias are more common. Although Amyand hernia has also been reported on the left side [5], this is rare and may be associated with situs inversus, intestinal malrotation or a mobile cecum [6]. In our case, a mobile cecum was the most likely cause of finding the appendix within the left inguinal hernial sac [5].

3% of term babies and 0.5% to 1.0% of adults have an undescended testicle, also known as a cryptorchid testicle [6]. Through physical examination, cryptorchidism is diagnosed. When an inguinal hernia and non-palpable testis are present, cryptorchidism should be suspected. In 10% of instances, cryptorchidism is linked to genetic abnormalities and is more frequently observed in preterm men. Prematurity, spina bifida, hormonal imbalances, testicular absence, or retractile testes are often seen associated with cryptorchidism [6, 7]. It is extremely rare to have a delayed presentation of cryptorchidism with a strangulated inguinal hernia that results in the strangulation of the undescended testis [12, 13].

Painful inguinoscrotal swelling is the most common presenting symptom of Amyand’s hernia [3]. Amyand’s

hernia is an intraoperative finding usually as an inguinal hernia is diagnosed clinically and radiographic imaging is only required when associated with symptoms of intestinal obstruction, or strangulated hernia [1, 3]. The blood supply of an incarcerated, perhaps stuck appendix, is restricted and the unusual placement of the organ explains for it being more prone to inflammation. These factors all contribute to inflammation in Amyand, which most likely involves ischemic events due to unusual placement [7]. A variety of consequent diseases, including appendix inflammation restricted to the inguinal sac, abscess, appendix perforation, necrotizing fasciitis, and intraperitoneal involvement, have been reported in association to the degree of inflammation and infection [8, 9]. Appendix strangulation has also been reported. [10]

Since Amyand’s is often misdiagnosed as an inguinal hernia preoperatively, further diagnostic testing is not standard after a clinical diagnosis is established. Preoperative diagnosis is challenging [11]. The majority of cases are identified during surgery. Preoperative evaluations could still be challenging even with a CT scan. The standard procedure for treating an inguinal hernia should be followed, since the results of a CT scan often does not provide an accurate preoperative diagnosis [11].

Based on the extent of the inflammation, Losanoff *et al.* proposed the following classification regarding the types of hernia and the management of the same [11].

Table 1: Losanoff and Basson's criteria: classification of Amyand's hernias and their plan of management

Classification	description	Management
Type 1	Normal appendix in an inguinal hernia	Hernia reduction, mesh repair, appendectomy in young patients.
Type 2	Acute appendicitis in an inguinal hernia with no abdominal sepsis	Appendectomy through hernia, primary endogenous hernia repair, no mesh
Type 3	Acute appendicitis in an inguinal hernia with abdominal and abdominal wall sepsis	Laparotomy, appendectomy, primary endogenous hernia repair, no mesh
Type 4	Acute appendicitis in an inguinal hernia with concomitant abdominal pathology	Same as Type 3+ management of concomitant disease

It is stated that due to the possibility of peritoneal contamination, appendectomy should not be done if the appendix is not inflamed as in Losanoff’s type 1, unless the patient is young. When compared to younger patients, the risk of developing appendicitis in the elderly and middle-aged population is somewhat low, hence prophylactic appendectomy is not necessary. A counterargument raises the possibility that a left-sided appendix might cause complications in the future due to an unusual appendicitis presentation [1, 4].

Hernioplasty is recommended in the absence of inflammation and infection (losanoff grade 1) especially considering the longevity advantage. It is believed that there is a septic risk with mesh administration in the existing inflammation and/or infection, such as in Losanoff’s types 2, 3, and 4, as compared to the repair using the Bassini’s or Shouldice’s procedure and no mesh implantation to prevent further post operative complications [1, 14, 15].

In our case, the patient presented with a left inguinoscrotal swelling with no signs of intestinal obstruction or strangulation, the preoperative diagnosis was made of a left sided incomplete inguinal hernia. Ultrasonography suggestive of testis in the right inguinal canal and left sided hernial sac with compromised vascularity of the testis, consent for orchidectomy was taken from the patient preoperatively. Our patient met the criteria as listed in Type 2 losanoff’s classification, for which appendectomy with left sided orchidectomy and Bassini hernia repair was performed. Post operatively, patient recovered well without any complications even in the immunocompromised state due to the HIV.

Post operatively, computed tomography scan was performed to look for the cause of left sided entity of amyand’s hernia, but the CT scan could not rule out situs inversus, malrotation of the gut and hence the probable cause of the same was assumed to be the mobile caecum (figure 2).



Fig 2: showing the absence of normal bowel anatomical location with the right sided inguinal testis and the absent left testis.

Conclusion

A left-sided Amyand's hernia is associated with cryptorchidism in an HIV positive patient is a very rare entity. The left sided presentation is usually the consequence of a mobile caecum. Appendix as the content is usually an intra operative finding, however the pre operative CT scan often fails to predict the accurate diagnosis of the same. Appendectomy and herniorrhaphy is the rule if appendicitis is present to prevent contamination of the mesh. Rare to our case was the presence of cryptorchidism and presence of HIV with low viral load which did not cause the post operative complication. On post operative 6 monthly follow up patient had no recurrence and complaints.

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