



AMYAND'S HERNIA : A RARE CASE ENTITY AND REVIEW OF LITERATURE

Dr. Saket Goel

MBBS, MS General Surgery Senior Consultant, Department of General Surgery Indraprastha Apollo Hospitals, New Delhi, India

Dr. Deepesh Mittal*

MBBS, DNB General Surgery Indraprastha Apollo Hospitals, New Delhi, India.
*Corresponding Author

ABSTRACT

Hernia is defined as protrusion of whole or a part of viscus through the wall containing it. Any part of abdominal viscus can herniate through inguinal canal to form Inguinal Hernia. Of all such hernias, Amyand hernia is a rare entity in which vermiform appendix herniates into the inguinal canal. Amyand's hernia is named after Claudius Amyand, a French surgeon, who first successfully operated on an 11-year-old boy who presented with an inflamed and perforated appendix in his inguinal hernia sac in 1735 [1]. It is worthwhile to mention here that if vermiform appendix herniates in femoral hernia it is known as De Garengot hernia after Rene Jacques Croissant De Garengot [2].

Although Inguinal Hernia is a common surgical encounter for General Surgeons all over the globe, Amyand Hernia accounts for only 1% cases, making it a rare surgical entity. Among amyand's hernia, the incidence of appendix being inflamed, obstructed or perforated is even rarer, accounting for only 0.08-0.13% cases [3]. Amyand's Hernia is not age specific as it can occur from neonates to even old age group, though more common among neonates and adolescents. Males are predominately affected than females. Right sided Amyand hernia is far more common than left sided, but the latter is also reported. Left sided Amyand's hernia is usually the consequence of the mobile cecum syndrome, presence of sizeable appendix or in situs inversus patients [4].

Here we are presenting a case of Amyand's Hernia who presented in Surgical OPD of Indraprastha Apollo Hospitals, New Delhi, India with large, tender lump in right groin region which was mimicking a lymph node mass.

KEYWORDS :

Case Report

A sixty-four-year-old male presented to Out Patient Department of Indraprastha Apollo Hospitals, Sarita Vihar, New Delhi with complains of large swelling in the right groin region since last 18 months. From the past 15 days, the patient had started having pain in the swelling that worsened with physical movement, disrupting his normal day to day activity. The size of the swelling had increased and was irreducible. He also gave history of left sided Hydrocoele since last 16 years. He didn't give history suggestive of intestinal obstruction. It is worthwhile to note here that patient is a known case of HIV AIDS and Type 2 Diabetes Mellitus which further confused the diagnosis.

On General Physical Examination, he looked pale and lethargic but his vitals were within normal limits and was afebrile to touch.

On Local Examination, a large tender not reducible mass in right inguinal region of approximately 7x3 cm in size was palpable. The overlying skin was erythematous and cough impulse was negative. Bilateral Hydrocoele was also noted-Left greater than Right. The abdomen was soft and bowel sounds were normal. (Figure 1a)

With an initial differential diagnosis of lymph node mass, Contrast enhanced CT scan was done which was suggestive of Right sided Inguinal Hernia with herniation of the appendix-Amyand hernia. The herniated appendix was thick walled and showed fluid distension in distal part with inflammatory changes. Bilateral Hydrocoele was noted. No evidence of dilated bowel loops or free fluid in abdomen. (Figure 1b)

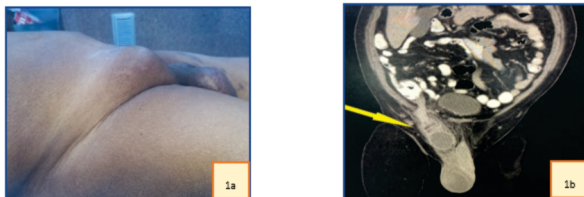


Figure 1: a) Local Examination showing large, tender lump in right groin region. b) Computed Tomography showing Appendix herniating through Inguinal canal with wall thickening and distal fluid distension.

He was admitted on urgent basis and was started on IV Antibiotics, IV Fluids and IV Analgesics. He was planned for Diagnostic Laparoscopy + Appendicectomy + Right sided Inguinal Herniorrhaphy/

Hernioplasty + /-Right Orchiectomy. On Pre-op investigations, he was found to have High blood sugar of 250 mg% and 2D-ECHO showed Left Ventricular Ejection Fraction of 35% only. Hence, patient was taken up for surgery under high-risk consent.

We first performed Diagnostic Laparoscopy, Vermiform Appendix was seen herniating into the right inguinal canal with caecum and Ileo-caecal junction in abdomen (Figure 2a). No free fluid was noted in abdominal cavity. Mesoappendix was thickened. Liver looked Cirrhotic. Trial was given to ligate the base of appendix laparoscopically, however due to dense adhesions it was decided to explore the inguinal canal in order to ligate the base of appendix.

On exploring the inguinal canal through Inguinal incision, hernia sac was dissected from the spermatic cord and its contents. Hernia sac was opened to find appendiceal mucocele within it. Pus with thick mucus of about 100ml was drained and sent for culture sensitivity which later showed E. coli growth. The base of appendix was transfixed using Vicryl 2-0 through the inguinal route after pulling the caecum inside the inguinal canal. Thick-walled hernia sac was noted as can be made in figure 2b. In view of immunocompromised status, uncontrolled diabetes and inflamed appendix it was decided not to place mesh and 2-layered suture repair of hernia was done with Prolene 1-0 suture.

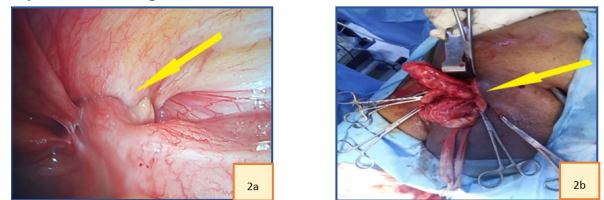


Figure 2: a) Laparoscopic view of Amyand Hernia. b) Mucocele appendix with thick walled hernial sac.

Patient tolerated the procedure well except for slight wound infection on POD 3 which resolved by regular dressings. He was discharged on day 4 and close follow up was done on OPD basis.

DISCUSSION

Amyand's Hernia is a rare and unusual type of Inguinal Hernia in which the vermiform appendix forms the content of hernia sac. There are other unusual types of Hernia such as:

- Presence of Meckel diverticulum within the hernial sac is called Littre's hernia
- Presence of the portion of the bowel wall within the hernial sac is

- called Richter hernia
- Presence of appendix within the femoral canal is called De Garengot hernia.

The chances of appendix being inflamed in amyand hernia is mere 0.08-0.13%. The exact mechanism for Appendicitis in inguinal hernia is not known but, it is attributed to Incarceration, pressure from abdominal wall muscles, fecalith, foreign substance, tumour of base of appendix and local trauma.

Unlike Appendicitis, amyand hernia is clinically asymptomatic with only symptoms being bulge or swelling in groin, sometimes associated with pain in lower abdomen, vomiting, scrotal pyocele etc. But, typical clinical symptoms of appendicitis like McBurney's tenderness, Rovsing's sign, Rebound Tenderness are often absent. Thus, making it difficult to diagnose amyand's Hernia preoperatively.

Hernia being a clinical diagnosis, imaging modalities are rarely used for diagnosis. Thus, maximum cases of amyand's hernia are a surprise to a surgeon intra-operatively. Imaging modalities like Ultrasonography and Computed Tomography scan have been found to be useful in preoperative diagnosis of Amyand's Hernia. However, CT scan is the investigation of choice for diagnosing Amyand Hernia. The primary CT signs considered as pathognomonic for Amyand's hernia are a blind ending tubular structure inside the hernia sac, arising from the base of the caecum and peri-appendiceal fat stranding [5]. As stated earlier the diagnosis of Amyand Hernia remains primarily an incidental finding during surgery. Thus, prior and optimal knowledge is required for every surgeon to diagnose Amyand's Hernia.

Losanoff and Basson proposed a classification for Amyand's Hernia on the basis of different clinical scenarios into four types [6]. This classification was modified by Singal et al. for appendix herniating in incisional hernia and was called Rikki modification [7]. A fifth type was added as shown in table.

Type of hernia	Salient features	Surgical Management
1	Normal appendix	Reduction or appendectomy (depending on age), mesh hernioplasty
2	Acute appendicitis localized in the sac	Appendectomy through hernia, endogenous repair
3	Acute appendicitis, peritonitis	Appendectomy through laparotomy, endogenous repair
4	Acute appendicitis, other abdominal pathology	Appendectomy, diagnostic workup and other procedures as appropriate
A Fifth type was included in Rikki's modification		
5a	Normal appendix within an incisional hernia	Hernia reduction, primary repair of hernia including mesh replacement
5b	Acute appendicitis within an incisional hernia without peritonitis	Appendectomy through hernia, primary closure of the aponeurotic gap, no prosthetics hernia repair
5c	Acute appendicitis within an incisional hernia with peritonitis or abdominal wall sepsis or in relation to previous surgery.	As Type 4

In Literature, different approaches towards management of Amyand Hernia have been described. But, a common consensus is yet to be made. However, we used a hybrid approach combining the laparoscopic and open technique. Firstly, we entered the abdominal cavity laparoscopically and a thorough study of the case was done. Appendix was seen clearly herniating through the inguinal canal with caecum lying about 1-1.5 cm from deep inguinal ring. Abdominal cavity was explored for any signs of infection/sepsis which was not found in our case. The Base of appendix was ligated and cut through inguinal approach and same was verified laparoscopically after the reduction of appendiceal stump. Layered closure of hernia defect was done and wound irrigated. Use of this Hybrid technique is never been described in literature so far for amyand's Hernia. We found this innovative technique to be quite useful as it gave us a better control over the situation. But we were only able to do this as the diagnosis of

amyand's hernia was made pre-operatively. In our view point, for long standing and recurrent inguinal hernias imaging modalities should be used whenever possible, so that a better surgical plan can be made for the better patient care.

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