



**A CASE SERIES OF INCIDENTAL DISCOVERY OF AMYAND'S HERNIA, AN UNEXPECTED GUEST IN THE SAC**

<b>Prof. Dr.B. Santhi</b>	M.S (HOD),Govt. Kilpauk medical college and hospital.
<b>Prof. Dr. M.Parimala</b>	M.S,Govt. Kilpauk medical college and hospital.
<b>Dr. Vasanth Kumar</b>	M.S, Govt. Kilpauk medical college and hospital.
<b>Dr. Madhava Kumaran</b>	M.S, Govt. Kilpauk medical college and hospital.
<b>Dr. Nishok Raj.N*</b>	Govt. Kilpauk medical college and hospital. *Corresponding Author

**ABSTRACT**

Amyand's hernia is an inguinal hernia that contains vermiform appendix in its sac. It consists 1 % of all inguinal hernias while appendicitis in an Amyand's hernia accounts for 0.1 % of all appendicitis cases. Its clinical image is identical to that of an incarcerated or perforated inguinal hernia. Diagnosis is usually established intraoperatively. Hernioplasty (with or without mesh repair and with or without appendectomy) is the treatment of choice. According to Losanoff and Basson's criteria, performance of appendectomy shall depend on vermiform appendix's inflammation status. In this case series, three patients who had right irreducible inguinal hernia, intraoperatively found to have appendix as content and are proceeded with appendicectomy and inguinal hernioplasty.

**KEYWORDS :**

**INTRODUCTION:**

In 1735, Claudius Amyand, a French surgeon working at St George's and Westminster hospitals in London, performed the first recorded appendectomy for a perforated appendicitis within the inguinal canal thus Amyand's hernia became the term to describe appendicitis, an inflamed appendix or a non inflamed appendix within an inguinal hernia. The presence of the vermiform appendix contained in the hernia sac, or an Amyand's hernia, is exceedingly rare, occurring in 1% of inguinal hernia patients. The incidence is estimated to be 1% of adult inguinal hernia repair, but the reported incidence of appendicitis in the inguinal sac is rarer and ranges between 0.08 to 0.13%. we report the case of amyand's hernia for it's clinical presentation, management and rare entity. Its clinical image imitates that of an incarcerated hernia, and thus, correct preoperative diagnosis based on clinical criteria is very difficult.

**CASE PROFILE :**

1. 61/male, Admitted in emergency as irreducible right inguinal hernia, patient had right inguinal hernia for 1 years and become irreducible along with pain over the hernia for 2 hours, on examination a single pyriform shaped swelling in right inguinal region of size 10x8 cm, cough impulse present, diagnosed as irreducible right inguinal hernia and hence proceeded with Emergency Right Inguinoscrotal Exploration and proceed. During surgery patient was found to have appendix without macroscopic evidence of acute inflammation in hernial sac – Amyand's type 1, but appendix was found to be 8 cm long. hence appendicectomy and hernioplasty done, post operative period was uneventful, discharged in stable clinical condition, post operative histopathological examination of appendix was acute appendicitis.



**Figure 1.2 : Showing long inflamed appendix delivered through Hernial Sac.**

2. 20/M, Admitted in emergency as suspected case of irreducible right inguinal hernia, patient had inguinal hernia for 1 year and pain over the hernia for past 3 hours and not reducing for 3 hours, on examination a single pyriform shaped right inguinal swelling of size 10x6 cm, not reducible, cough impulse present, diagnosed as irreducible right inguinal hernia and Basic investigations for assessment for anaesthesia were normal, ultrasonogram abdomen /inguinal region showed right indirect hernia with bowel as a content. Patient was proceeded with Emergency right inguino scrotal exploration and proceed.

During surgery patient was found to have appendix without macroscopic evidence of acute inflammation in hernial sac – Amyand's type 1, but appendix was found along with caecum. hence appendicectomy and hernioplasty done, post operative period was uneventful, discharged in stable clinical condition, post operative histopathological examination of appendix was acute appendicitis (Amyand's type-2)



**Figure 1.1 : Showing tip of appendix while opening the sac.**



**Figure 2.1 & 2.2: Shows Caecum along with appendix as the content of the sac. Appendix found inflamed.**

3) 70/male, Admitted in emergency as suspected case of right inguinal hernia, patient had inguinal hernia for 1 week and pain over the hernia for past 1 month and not reducing for past 5 days, on examination a single pyriform shaped right inguinal swelling of size 10x5 cm, manually partially reducible with gurgling, cough impulse present, diagnosed as right inguinal hernia with enterocele and Basic investigations for assessment for anaesthesia were normal, ultrasonogram abdomen / inguinal region showed right indirect hernia with defect of size 3.5 cm with bowel as a content. case posted for elective hernioplasty, pain over the hernia subsided after antibiotic therapy. During surgery patient was found to have appendix without macroscopic evidence of acute inflammation in hernial sac – Amyand’s type 1, hence appendectomy and hernioplasty done, post operative period was uneventful, discharged in stable clinical condition, post operative histopathological examination of appendix was acute appendicitis( Amyand’s type 2)



**Figure 3.1 & 3.2: Shows Caecum and Appendix as content. Appendix found inflamed.**

**DISCUSSION :**

Amyand's hernia accounts for 1 % of inguinal hernias and 0.1 % of appendicitis cases. Amyand's hernia usual appearance is that of a tender inguinal or inguino-scrotal swelling. Correct preoperative differential diagnosis from that of an incarcerated or strangulated inguinal hernia is almost impossible. Physical examination will usually reveal swelling in the right groin, pain and tenderness. Depending on vermiform appendix's situation—normal, inflamed, perforated or gangrenous—other symptoms that may appear are fever, vomiting, gastrointestinal symptoms and bowel obstruction.

CT scan allows direct visualization of the appendix inside inguinal canal. Proximity of cecum to a hernia sac is an indirect sign of Amyand's hernia . Treatment of Amyand's hernia includes appendectomy, drainage of possible abscesses, reduction of hernia and hernioplasty . In cases of appendicitis or perforated appendix appendectomy should be performed. In case that appendix shows no macroscopic signs of inflammation prophylactic appendectomy is not necessary. On the other hand, in cases of appendicitis or perforated appendix, mesh should not be used in hernia repair because it increases the chance of wound infection, sepsis and fistula formation. Furthermore, it might lead to hernia recurrence. However, in non-inflamed cases many authors suggest the use of mesh. This drove Losanoff and Basson to create an Amyand's hernia classification and staging system. According to them hernia can be divided into four subtypes: (1) Amyand's hernia with a normal appearing appendix in the inguinal sac, (2) Amyand's hernia with inflamed appendix, (3) Amyand's hernia with a perforation of appendix and (4) complicating intra-abdominal pathology (e.g., abscess or malignancy).

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 an inguinal hernia with abdominal concomitant pathology	Same as type 3 plus management of concomitant disease

Taking in consideration of future appendicitis we decided to perform prophylactic appendectomy. We believe that every patient’s particular characteristics should be taken in consideration when facing such cases.

**CONCLUSION:**

The decision to perform an appendectomy or/and use the mesh repair should always be individualized to the patient. The decision as to whether one should perform a simultaneous appendectomy and hernia repair is multifactorial. It is important to be aware of all clinical settings and an appropriate and individualized approach should be applied. The presence or absence of inflammation of the appendix is a very important determinant of appropriate treatment. In our 3 cases macroscopically no evidence of acute appendicitis hence mesh repair done, but microscopically proved as acute appendicitis which is in hernial sac is a rare entity.

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