

Case Report

Amyand Hernia — An Uncommon Coexistence of Two Common Disease Entities

Rajib Datta¹, Shamita Chatterjee²

Amyand hernia is a very rare disorder characterized by presence of appendix (normal, inflamed or perforated) in the hernia sac. Though it is usually detected intra-operatively, ultrasonography or computerized tomographic scan done preoperatively may provide a clue. The presentation is determined by the condition of the appendix, and can mimic an incarcerated hernia. Though there are no standardized treatment protocols, management is mostly dictated by the condition of the appendix.

We present the case of a 62-year-old male patient who presented with right sided obstructed inguinal hernia, which intra-operatively revealed an Amyand Hernia.

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Key words : Hernia, Appendix, Appendectomy, Amyand hernia, Inguinal hernia.

Hernia, defined as the abnormal protrusion of an organ or part of an organ through the wall of the containing cavity, is one of the most frequent conditions that a surgeon encounters. Of all hernias, inguinal hernias are the commonest, with the omentum or bowel being the typical contents of the hernia sac. Appendicitis is another very common surgical condition. Very rarely when these two common entities co-exist, with the appendix (normal, inflamed or perforated) inside the hernia sac, it is called an Amyand Hernia (AH)¹.

We present the case of a 62-year-old male patient of AH.

CASE REPORT

A 62-year-old male patient presented to the ER with right sided obstructed inguinal hernia. He was a chronic smoker with history of hypertension and COPD. Straight X ray abdomen showed multiple air fluids levels. Exploration of right inguinoscrotal region revealed a large indirect hernia with cecum, non-inflamed appendix and ileocaecal junction as contents. Appendectomy was not done as appendix was normal. Mesh was avoided (as the sac contained toxic fluid) and primary hernia repair was done, with posterior wall darning using 2-0 polypropylene. Patient had an uneventful recovery. Thus, it was an AH with normal appendix (Fig 1).

DISCUSSION

In 1735, English surgeon Claudius Amyand first

¹MS, FMAS, Consultant, Gopiballavpur Multi Super Specialty Hospital, Jhargram 721506, At present : Post Doctoral Trainee, Department of Plastic Surgery, RG Kar Medical College and Hospital, Kolkata 700004

²MS, FMAS, FAIS, Professor, Department of Surgery, NRS Medical College and Hospital, Kolkata 700014, At present : IPGME&R and SSKM Hospital, Kolkata 700020 and Corresponding Author

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Editor's Comment :

- Very rare disorder.
- Usually diagnosed intra-operatively.
- Plan of management dictated by condition of appendix.

reported the presence of appendix in a hernia sac. This rare type of hernia was subsequently named after him.

AH accounts for between 0.19%-1.7% of all inguinal hernias¹. It is three times more common in paediatric population, due to the patency of processus vaginalis². In the paediatric population, the prevalence is 1% and occurs more often in males than females². It typically presents on right side, possibly due to the normal

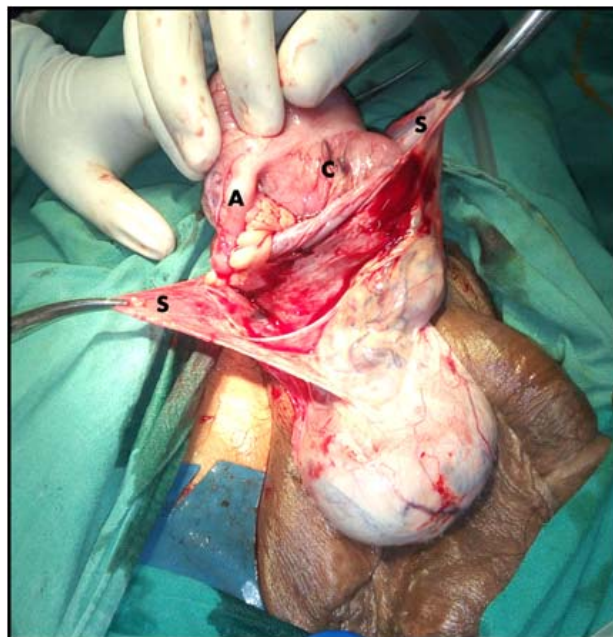


Fig 1 — Amyand Hernia with caecum (C) and appendix (A) as content in hernia sac (S)

anatomical position of the appendix³. Although rare, left sided AH do occur and have been thought to be as a result of a mobile caecum, intestinal malrotation or situs inversus⁴.

The pathophysiology of AH is uncertain. One theory suggests a congenital herniation of the appendix due to combination of an existing patent processus vaginalis and a fibrous connection between the appendix and testes⁵. Another theory points to the congenital laxity of the right colon since some of these cases contain the cecum in addition to the appendix³.

The appendix may remain in the hernia sac without causing additional symptoms. But, though extremely rare, appendicitis may occur in 0.07-0.13% cases of AH¹. When it does, it mimics an incarcerated hernia⁵. The appendicitis may either be due to primary inflammation causing oedema of the internal ring, or incarceration of a normal appendix by abdominal wall musculature⁶. Perforated appendix incarcerated within an inguinal hernia is rare as well, at 0.1% of all cases of appendicitis, with mortality ranging from 15%-30%, because of severe abdominal sepsis^{1,5}. Other complications of AH may include abdominal or peri-appendicular abscess secondary to appendicular perforation⁷, inflammation of right testicle and cord, testicular ischemia and rarely necrotizing fasciitis of the anterior abdominal wall⁸.

Preoperative clinical diagnosis is usually impossible^{1,5}. Though Ultrasound (USG) and Computerised Tomographic Scan (CT) may aid to a certain extent in identifying AH⁹, these are seldom done for diagnosing a hernia. USG shows a blind ended tubular structure with thickened walls in connection with the cecum inside the hernia sac. CT allows direct visualization of the appendix inside the inguinal canal, and in strangulated hernia, a blind ended tubular structure with bowel wall thickening, fat stranding, mesenteric engorgement and extraluminal fluid confined to hernia sac is seen.

In view of the rarity of AH, standardized treatment recommendations are lacking in literature. Whether or not an appendectomy should be done at the same time as hernia repair remains debatable. Losanoff and Basson addressed this dilemma and proposed a classification for AH, which could guide the type of surgical treatment offered¹⁰ (Table 1). Our patient presented a AH Type 1, hence appendectomy was not done. However, in view of the presence of toxic fluid, mesh placement was avoided and darning done with non-absorbable suture.

The condition of the appendix determines the approach and type of hernia repair. If the appendix is normal, it can be reduced into the peritoneal cavity and a meshplasty done. Prophylactic appendectomy is better avoided. But, paediatric population has a higher risk of developing appendicitis. So, in children even a healthy appendix may be taken out. Moreover, the appendectomy will not alter hernia repair as mesh is not used in this population¹⁰. If appendix is inflamed or perforated, appendectomy with endogenous hernia repair should

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

be done. No prosthetic material should be used, as appendectomy converts a clean surgery to a clean-contaminated surgery, thereby raising the infection rate and possible mesh infection^{1,5}.

CONCLUSION

AH is a very rare coexistence of two common disorders. As they are mostly diagnosed intra-operatively, the management plan is dictated by the condition of the appendix and age of the patient.

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