

CASE REPORT

Amyand's Hernia

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Introduction

The presence of appendix inside a hernial sac is termed Amyand's hernia (AH). The prevalence of AH is 0.4-0.6 % of all inguinal hernias. The treatment of AH is decided upon by the intra-operative finding and includes appendectomy and hernia repair. [1,2,3]

Case Report

67-year-old man presented with insidious onset, gradually increasing swelling in the right inguinal region for 2 years duration. There was no history suggestive of the complications. Clinical evaluation revealed partially reducible right inguinal hernia with omentum as the content of the hernial sac without strangulation or incarceration patient. The individual was taken up for open mesh hernioplasty under spinal anesthesia. Intra-operative findings included appendix as the content of the indirect hernial sac. (Fig 1). The base of the appendix was adherent to the sac with no features suggestive of acute appendicitis. After adhesiolysis, caecum was mobilized into the wound and appendectomy done a mesh repair was performed. (Fig 2). The histopathological examination suggested a normal appendix. The patient has been under follow up for 1 years after the surgery with no evidence of recurrence of the hernia.

Discussion

AH is used to describe the hernia with appendix as the content of the hernial sac regardless of the state of the appendix – normal, inflamed, perforated or gangrenous. The disease was named after Claudius Amyand, an English surgeon who performed appendectomy in 1735 for acute appendicitis inside inguinal hernia [1,2]. The most common sites for the AH are the right inguinal and femoral hernias, however left side hernias have been mentioned in literature. [2,3].

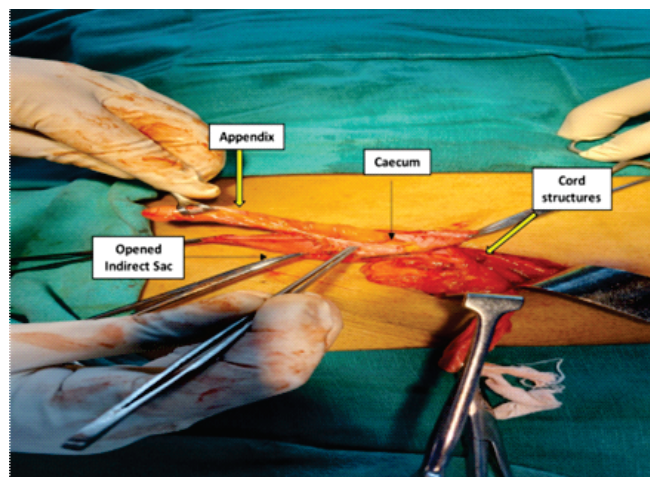


Figure 1. Intraoperative figure showing the opened indirect hernial sac with appendix as the content. The ileo-caecal junction can be appreciated with adhesion of the base of the appendix with the sac.

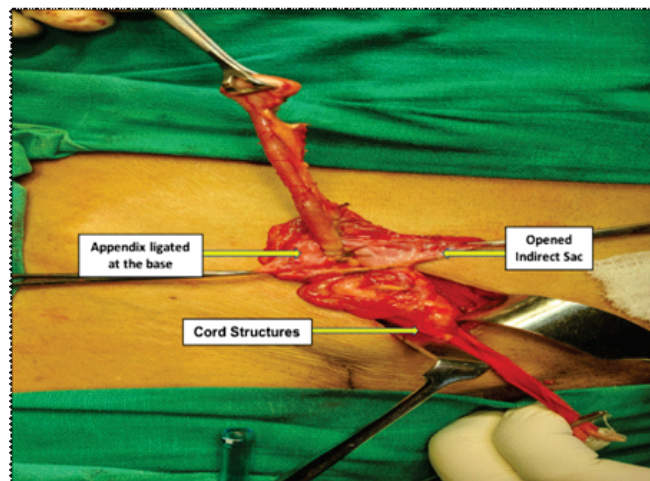


Figure 2. The figure showing appendix after dissection of the mesoappendix and ligation at its base inside the hernial sac.

AH has a prevalence of 0.4 - 0.6 % of all the inguinal hernias, whereas in the children it's about 1 %. [1,2]. It has a male predominance and is common in neonates and patients older than 70 years, reflecting a bimodal age distribution [2]. AH is generally an indirect hernia though direct hernias have been reported [1,2,3].

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AH presents with a swelling in the right groin, pain, and tenderness; while fever, vomiting, gastrointestinal symptoms and bowel obstruction may suggest an inflamed, perforated or gangrenous appendix. [1,2]. The preoperative clinical diagnosis of a AH is difficult and imaging with ultrasonography and CT may be required. The cases where appendix is not visualized in the inguinal canal, the position of the caecum in the vicinity of hernia is evidence of AH. [4,5]. The appearance of fluid in the right scrotum and heterogenic tissue on ultrasound; gas on CT scan are indicators of a perforated appendix [4,5].

AH has been classified as per few classification systems. Fernando et al. categorised AH as (a) non-inflamed, (b) inflamed or (c) perforated appendix which depends upon the inflammation of appendix inside the hernia [3]. Losanoff and Basson's AH classification system has been proposed to stage and manage AH [6]. AH has been categorized into four types (i) Normal appendix with inguinal hernia (ii) Hernia with acute appendicitis localised in the sac (iii) Hernia with perforation of acute appendicitis (iv) Hernia with acute appendicitis and complications (i.e. abscess or malignancy). In type 1 Losanoff and Basson have suggested reduction of the appendix in peritoneal cavity or appendectomy (depending upon comorbidities) and mesh hernioplasty. In type 2 AH, appendectomy through the hernia and endogenous repair; while for sub type 3 appendectomy through laparotomy and endogenous repair has been suggested. In type 4 AH, is recommended to perform appendectomy and manage the hernia based on the level of contamination. [6]

From the surgical perspective, when a non-inflamed appendix is found in AH, many authors recommend hernia repair with mesh [2,4]. There does exist controversy over prophylactic appendectomy and mesh hernioplasty. Appendectomy should be carried out in cases of AH with appendicitis or perforation. In cases where the appendix is normal, most authors recommend reduction of appendix into the peritoneal cavity and mesh hernioplasty without performing appendectomy. However, some recommend appendectomy in all cases of AH due to risk of appendicitis induced during manipulation as well as chances of appendix getting relocated in the hernial sac in the future. [1,2,3,4,7]. Many authors don't recommend using mesh in the setting of acute inflammation or any abscess due to the risk of wound infection, fistula and recurrence of hernia. However, many authors have used biologic meshes in cases of inflamed or perforated appendicitis without any complications [1,7].

Conclusion

The clinical diagnosis of AH may be difficult in view it being

a rare disease. Radio-imaging aids in the pre-operative diagnosis of AH and also helps in diagnosing the complications associated with the disease. The decision about appendectomy and mesh repair should be taken depending upon the patients clinical condition and the status of the surgical field.

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Learning Points:

- Amyand's hernia is a rare disease and is frequently diagnosed intra-operatively.
- The diagnosis can be made pre-operatively with the help of Ultrasound or CT scan of the abdomen.
- The treatment depends upon the patient's clinical condition and status of the surgical field and includes appendectomy and hernia repair with or without mesh.
- We recommend appendectomy in all cases of AH and mesh repair in cases of non-inflamed appendix.