

Amyand's hernia: A rare case report

Sunil Gujar¹, Vipul Golchha¹, Akhilesh Kumar Patel², Siddhart Gurwani³, Raunak Kumar Gupta², Siddharth Shinde⁴, Sneha Ninama², Ankur Deshwali⁵

From ¹Senior Resident, Chirayu Medical College, ²Senior Resident, Department of General Surgery, All India Institute of Medical Sciences, Bhopal, ⁴Senior Resident, Department of General Surgery, ESIC, Nanda Nagar, ⁵Junior Resident, Department of General Surgery, SAMC And PGI, Indore, Madhya Pradesh, ³Senior Resident, Department of General Surgery, All India Institute of Medical Sciences, Raipur, Chhattisgarh, India

ABSTRACT

Amyand's hernia is an atypical and rare hernia characterized by the herniation of the vermiform appendix into the inguinal sac. Here, we report the case of a 60-year-old male patient presented with complaints of the right-sided reducible inguinal hernia. On exploration as an incidental finding, we encountered an Amyand's hernia treated with appendectomy and hernioplasty without any complications. Hence, we should keep in mind to rule out Amyand's hernia during hernioplasty.

Key words: Amyand's hernia, Appendectomy, Lichtenstein tension-free hernioplasty, Patent processus vaginalis

Amyand's hernia is an atypical and rare hernia characterized by the herniation of the vermiform appendix into the inguinal sac. The incidence of Amyand's hernia varies from 0.19 to 1.7% [1,2] and is diagnosed during hernioplasty. Appendicitis, in conjunction with Amyand's hernia, accounts for 0.1% of all cases of appendicitis [1,3]. Amyand's hernia typically presents on the right side. This is likely due to the normal anatomic position of the appendix [3,4]. Although it is rare, the left-sided Amyand's hernias do occur and have thought to be the results of a mobile or floppy cecum, intestinal malrotation, or *situs inversus*. The pathophysiology of Amyand's hernia is uncertain, though a couple of theories are proposed. One theory by Michalinos *et al.* suggests a congenital herniation of the appendix due to the combination of an existing patent, a vaginal process, and a fibrous connection between the appendix and the testes [1]. Another theory points to the congenital laxity of the right colon since cases of this herniation contain the caecum in addition to the appendix [4].

CASE REPORT

A 60-year-old male presented with complaints of swelling over the right inguinoscrotal region for 5 years. The swelling was associated with pain for 1–2 months with no associated bowel abnormalities or urinary symptoms.

On systemic examination, the patient was conscious, oriented, and responsive to time, place, and person. The patient had a


normal gait. There was no icterus, pallor, or cyanosis. The vitals were stable with a blood pressure of 128/74 mmHg, pulse rate of 74/min, and afebrile. On local examination, the size of the swelling was 8×4 cm. The swelling was reducible, cough impulse present, and non-transilluminate.

Routine blood investigations were done found within normal limits. On ultrasonography (USG), a tubular structure extending into the inguinal sac from the right iliac fossa region was seen. It was inflamed, dilated, non-compressible, thickened, and hypervascular. The findings were suggestive of Amyand's hernia on the right side. A pre-operative workup was done. Intraoperatively, a long, inflamed appendix as hernia sac content was found (Fig. 1). Appendectomy with Lichtenstein tension-free hernioplasty was done.

Gross examination showed hemorrhagic with a fibrinopurulent coating serosa. The histopathological examination showed neutrophilic infiltrate of the wall of the appendix with acute mucosal inflammation and neutrophilic infiltrate within the lumen. It was suggestive of acute appendicitis. The patient had an uneventful post-operative period and discharged after 3 days. A follow-up of the patient after 14 days showed no fresh complaint at that time.

DISCUSSION

Amyand's hernia is a rare and atypical hernia characterized by the herniation of the appendix into the inguinal sac. Amyand's hernia is most frequently reported in men and almost exclusively on the right side [5]. On December 6, 1735, an English surgeon Claudius

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Correspondence to: Sunil Gujar, D Block, Flat No. 2, Chirayu Capmpus, Bhopal - 462 023, Madhya Pradesh, India. E-mail: suneelgurjar12@yahoo.co.in

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Amyand's performed the appendectomy on an 11-year-old boy with a perforated appendix inside an inguinal incarcerated sac; hence, this condition is now named after him [5]. It is diagnosed during hernioplasty, more commonly in children due to a patent vaginal process [1].

Abdominal examination, physical signs, laboratory results, and imaging are not always helpful in differential diagnosis [2,6,7]. Amyand's hernia is a diagnostic challenge due to its low incidence, indistinct clinical presentation, and ambiguous appearance on imaging such as computed tomography (CT) scan of the abdomen. Singal and Gupta concluded that USG and CT are useful tests, but the clinical correlation is necessary in incarcerated appendix [8].

In 2007, Losanoff and Basson proposed a classification when facing this rare condition. The classification is shown in Table 1 [8-10]. International literature recommends reducing the hernia content and performs no tension hernia repair [9,11-13]. If an appendectomy is performed, clean surgery is combined with a clean-contaminated surgery, raising the infection rate and possible infection of prosthetic material [9,11]. In the cases, where an inflamed, suppurative, or perforated appendicitis was encountered, no prosthetics material should be used due to the increased risk of surgical site infection as well as possible

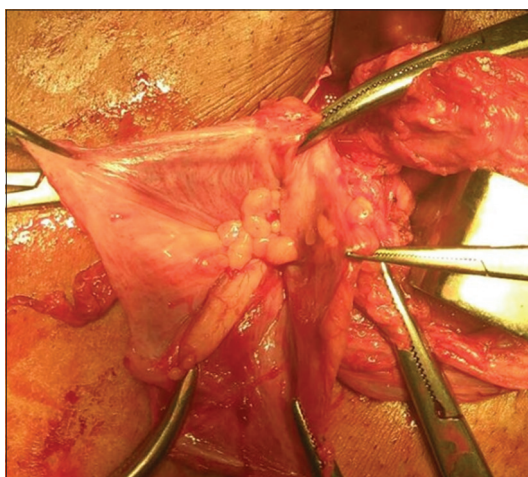


Figure 1: Intraoperative picture showing a long, inflamed appendix as hernia sac

Table 1: Losanoff and Basson classification of Amyand Hernia [8-10]

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

fistulae formation from the appendicular stump. In these cases, in addition to appendectomy, a Shouldice technique should be considered due to its lower recurrence rate [14,15], this will depend on the surgeon's decision, experience, and domain over tension inguinal hernia repair techniques. With the new prosthetic materials such as biological mesh, current surgical approach in Amyand type 2 hernias suggests its use to prevent a recurrence.

In our case, intraoperative long inflamed appendix as hernia sac content was found, so appendectomy with Lichtenstein tension-free hernioplasty done. A similar case report was published by Dange and Gireboinwad in a 3-year-old child who presented as a right-sided congenital hernia with pain in the right groin. The patient underwent herniotomy, which revealed that the hernia sac containing elongated inflamed appendix appeared with some adhesions to sac, lying in the inguinal canal [16]. Acute appendicitis within an "Amyand's hernia" could be a life-threatening condition, if not tackled immediately.

CONCLUSION

Amyand's hernia is a rare and atypical hernia characterized by the herniation of the appendix into the inguinal sac. Pre-operative clinical diagnosis is practically impossible, Amyand's hernia is a diagnostic challenge due to its low incidence, indistinct clinical presentation, and ambiguous appearance on imaging such as CT. Surgery is, therefore, frequently diagnostic also as therapeutic. Hence, we should keep in mind to rule out Amyand's hernia during hernioplasty.

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