

# Amyand's Hernia: A Case of an Unusual Incarcerated Recurrent Inguinal Hernia

Ali Özer<sup>1</sup>, Meltem Güner Can<sup>2</sup>

<sup>1</sup>Acibadem Atakent University Hospital, Department of General Surgery, Istanbul, Turkey

<sup>2</sup>Acibadem Atakent University Hospital, Department of Anesthesiology, Istanbul, Turkey

Ali Özer, Asistant Prof.

Meltem Güner Can, Asistant Prof.

## ABSTRACT

An Amyand's hernia refers to the presence of a vermiform appendix within an inguinal hernia sac. The incidence of this rare condition varies in the literature, ranging from 0.19% to 1.7% of the reported inguinal hernia cases. The clinical presentation is similar to that of an incarcerated or strangulated hernia. In the case presented here, a non-inflamed appendix and adherent caecum were detected during a surgery performed for an incarcerated recurrent inguinal hernia. After a prophylactic appendectomy was performed, a mesh was applied for the hernia repair.

**Keywords:** Amyand's hernia, appendix, incarcerated inguinal hernia

## AMYAND FITIĞI: SIRADIŞI İNKARSERE NÜKS İNGUINAL HERNİ VAKASI

### ÖZET

İnguinal fıtık kesesi içerisinde appendiks vermiformis bulunması Amyand's hernisi olarak adlandırılır. Bu nadir durumun insidansı literatürde farklılık göstermekte ve tüm inguinal hernilerin %0,19 ila %1,7'si olarak bildirilmektedir. Amyand's herni inkarsere veya strangüle inguinal hernilere benzer bir klinik gösterir. Bu olguda, nüks inkarsere inguinal herni nedeniyle operasyona alınan hastada normal appendiks ve fıtık kesesine yapışık çekum tespit edildi. Appendektomi sonrası meşli herni onarımı yapıldı.

**Anahtar sözcükler:** Amyand fıtığı, appendiks, inkarsere inguinal herni

**A**n Amyand's hernia is an atypical hernia, defined as a vermiform appendix within an inguinal hernia. It was named after Claudius Amyand (1680–1740), who was the first surgeon to describe this condition, and who performed the first recorded appendectomy in 1735. This herniated appendix can be normal, inflamed or perforated; however, it remains debatable whether or not an appendectomy should be performed before the hernia repair (1,2). The presence of an appendix within a femoral hernia sac is considered to be a specific form of Amyand's hernia, otherwise known as de Garengéot's hernia. An Amyand's hernia is usually detected incidentally during surgery, because a definitive preoperative diagnosis presents a clinical challenge.(3). Here, an irreducible recurrent Amyand's hernia has been reported. It was treated via an appendectomy and mesh hernia repair without complications.

## Case Presentation

An 84-year-old male patient presented to the emergency service with an 8-hour history of painful swelling in the right inguinal region. His surgical history included a

### Correspondence:

Asistant Prof. Ali Özer

Acibadem Atakent University Hospital,  
Department of General Surgery, Istanbul,  
Turkey

**Phone:** +90 533 212 23 24

**E-mail:** draliozerr@gmail.com

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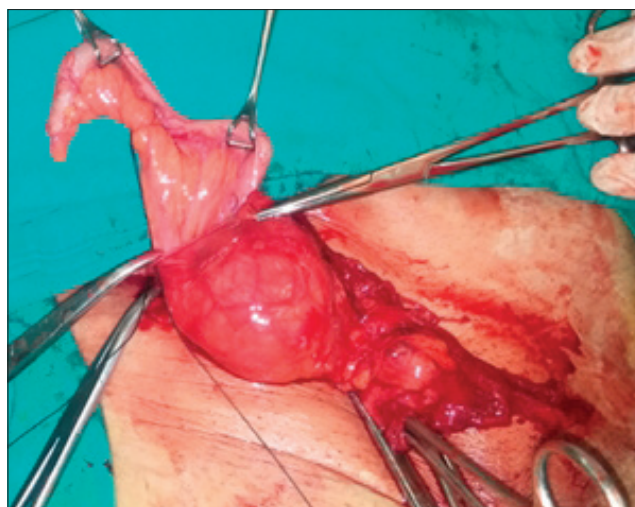
hernia repair 30 years previously, as well as a 2-year history of intermittent right-sided groin swelling and discomfort. Upon examination, there were no signs or symptoms of intestinal obstruction or bowel strangulation. The only notable laboratory finding was mild leucocytosis ( $11.000/\text{mm}^3$ ). The ultrasonography (USG) showed the inguinal hernia sac containing only a large bowel loop, with no sign of the vermiform appendix inside the hernia sac. The reduction of the incarcerated hernia was unsuccessful; therefore, emergency surgery was planned. During the groin exploration, an indirect hernia sac with the non-inflamed appendix adhered to it was identified (Figure 1). The appendix was separated from the hernia sac, but it was not possible to reduce it into the abdomen while the caecum was adhered, so an appendectomy was performed. A Lichtenstein hernia repair was applied after the appendectomy. This patient had an eventless recovery period and was discharged on post-surgery day 2.

## Discussion

An Amyand's hernia has a varied incidence in the literature, ranging from 0.19% to 1.7% of all reported hernia cases. These patients ranged in age from 3 weeks to 92 years old, and the disease was diagnosed 3 times more often in children than in adults. The incidence of acute appendicitis in an Amyand's hernia was reported as 0.1% of all appendicitis cases. Although a few left-sided Amyand's hernia cases have been reported, right-sided Amyand's hernias occur more often due to the anatomical location of the appendix (4).

The clinical presentation of an Amyand's hernia is similar to that of an incarcerated or strangulated hernia, but its preoperative diagnosis remains elusive. Therefore, immediate surgery is usually performed in these cases. Preoperative imaging may help (might be helpful) for the diagnosis and in defining a surgical strategy; however, the preoperative diagnosis of an Amyand's hernia by USG has rarely been reported in the literature (5,6). A vermiform appendix was not shown by the USG in our case, likely due to the obesity of the patient and complexity of the recurrent hernia. Despite this, preoperative imaging can play an important role, especially computed tomography (CT), which can be useful in complicated cases (7–9).

The management of an Amyand's hernia is based on the classification of Losanoff and Basson. Each subtype requires a different surgical treatment (management) in which the repair addresses the pathology of the appendix as well as that of the hernia. Most reports agree on the surgical treatment of complicated cases; however, there is



**Figure 1.** The appendix within the inguinal hernia sac.

still a controversy regarding the surgical approach in those cases with non-inflamed appendixes. Some authors recommended an appendectomy only if an appendicitis is present, but some (other authors) (but others suggested a prophylactic ...) authors suggested a prophylactic appendectomy to prevent future complications, such as appendicitis and reherniation(10–13). In the present case, the appendix was normal, but it was not possible to reduce the appendix because the caecum was adherent to the hernia sac. The dissection of the appendix from the hernia sac was necessary, and we believed that the risk of secondary appendicitis was increased due to the trauma; therefore, a prophylactic appendectomy was performed.

In the presence of appendicitis, a mesh repair is not recommended, although some authors have reported mesh hernia repairs after appendectomies, even in inflamed cases (12,14,15). However, there is no evidence-based information in the literature about this issue due to the rarity of Amyand's hernia (10,15). In present case, the patient's tissue did not allow for a primary repair, so a prosthetic polypropylene micropore mesh was used for the hernia repair. Cefazolin sodium (1 g) was given as prophylactic antibiotic and as a lengthened prophylaxis for two days. No surgical site infections were detected during the postoperative days.

## Conclusion

An Amyand's hernia is a rare condition with a preoperative diagnostic dilemma. Its (The) management is surgical, which includes a hernioplasty with or without an appendectomy, depending on the intraoperative findings. Additional studies are necessary to establish more definitive surgical management strategies.

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