Amyand Hernia: A Rare Case

Ozan Akıncı[1], Yasin Tosun[2], Abdullah Kağan Zengin[3]

[1]Department of General Surgery, Hakkari State Hospital, Hakkari, Turkey
[2]Department of General Surgery, Istanbul Kartal Dr Lütfi Kırdar Training and Research Hospital, Istanbul, Turkey
[3]Department of General Surgery, Istanbul University- Cerrahpaşa, Cerrahpaşa School of Medicine, Istanbul, Turkey

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Abstract

Amyand hernia is an unexpected and rare clinical condition with an appendix found within the inguinal hernia sac, which can usually be diagnosed intraoperatively. The presence of the appendix in the sac complicates the management of inguinal hernias. In this report, we aim to present a patient with right incarcerated inguinal hernia that we operated, who was diagnosed intraoperatively with Amyand hernia.

Keywords: Amyand hernia, inguinal hernia, acute appendicitis

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Amyand Herni: Nadir Bir Olgu

Öz

Amyand herni; inguinal herni kesesi içerisinde apendiksin bulunduğu, genellikle intraoperatif olarak tanı konulabilen beklenmedik ve nadir bir klinik durumdur. Herni kesesi içerisinde apendiksin bulunması tedavinin komplike hale gelmesine neden olur. Bu yazımızda sağ inkarsere inguinal herni tanısıyla opere ettiğimiz ve intraoperatif olarak Amyand herni tanısı koyduğumuz bir olguyu sunmayı amaçladık.

Anahtar Sözcükler: Amyand herni, inguinal herni, akut apandisit

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Amyand hernia, first introduced in 1735 by Cladius Amyand, is defined as the placement of the appendix vermiformis inside the inguinal hernia sac, whether it is inflamed or not [1]. Amyand hernias make about 1% of all inguinal hernias [2]. The incidence of Amyand hernia in acute appendicitis was reported as 0.1% [3]. It is more common on the right side due to the anatomical location of the appendix [4]. The diagnosis is usually made during the operation. The main method of treatment is surgery, and it can show some differences according to the inflammation of the appendix, contamination of the surgical field, age, and the size of the hernia defect.

Case Presentation

A 38-year-old male patient with swelling on the right inguinal area for 3 months applied to our clinic due to the pain in the right inguinal area for the past 48 hours. An irreducible painful swelling in the right inguinal area and tenderness in the right lower quadrant were detected in the patient who was found to be using methamphetamine. There was no vomiting and nausea, and the patient was able to pass gas and stool. Leukocytosis (16,000 mm^3) and elevated C-reactive protein (CRP; 56 mg/L) were detected in laboratory tests. The patient was operated under spinal anesthesia for the diagnosis of incarcerated inguinal hernia on the same day. When the hernia sac was opened, an erected, inflamed appendix with a distal necrosis was observed (Figure 1, 2). The Lichtenstein type inguinal hernia repair was applied with the mesh, high ligation, and appendectomy. The pathology results were consistent with gangrenous appendicitis (Figure 3). The patient was cured and discharged on the first day. Informed consent was obtained from the patient for this study.

Discussion

When all of the inguinal hernias are evaluated, appendix is found in the hernia sac in 1% of the cases [2]. Appendix can be found inside the hernia sac as incarcerated, infected, perforated, or normal. The incidence of Amyand hernia in acute appendicitis cases was reported as 0.1% [3]. Amyand hernia is more common in men than in women [5]. Although it is

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Address for Correspondence/Yazışma Adresi: Ozan Akıncı;
Department of General Surgery, Hakkari State Hospital, Hakkari, Turkey
E-mail/E-posta: ozanakinci1987@hotmail.com
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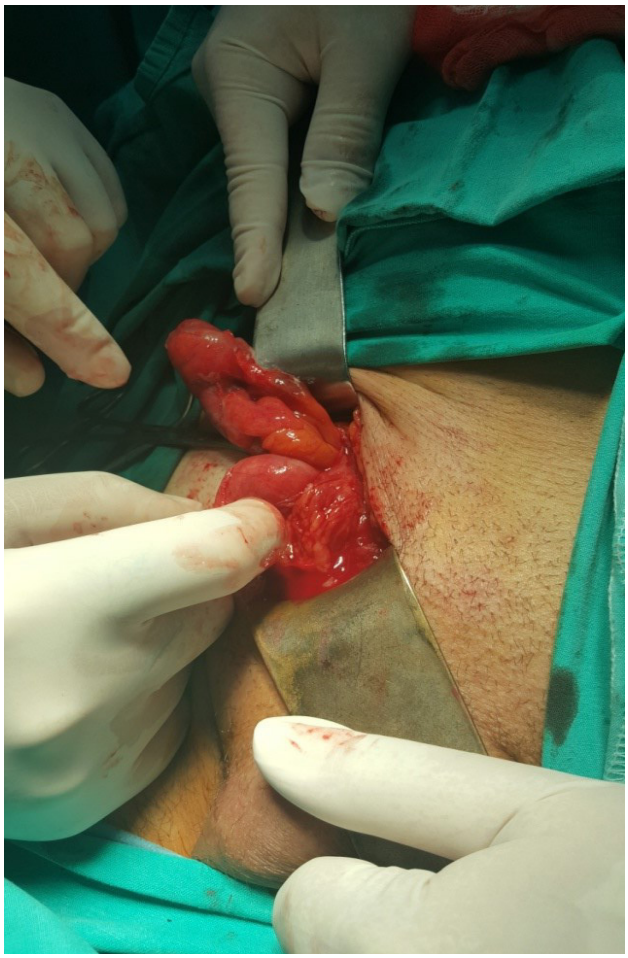

Figure 1. An inflamed and erected appendix vermiform is taken out of the hernia sac

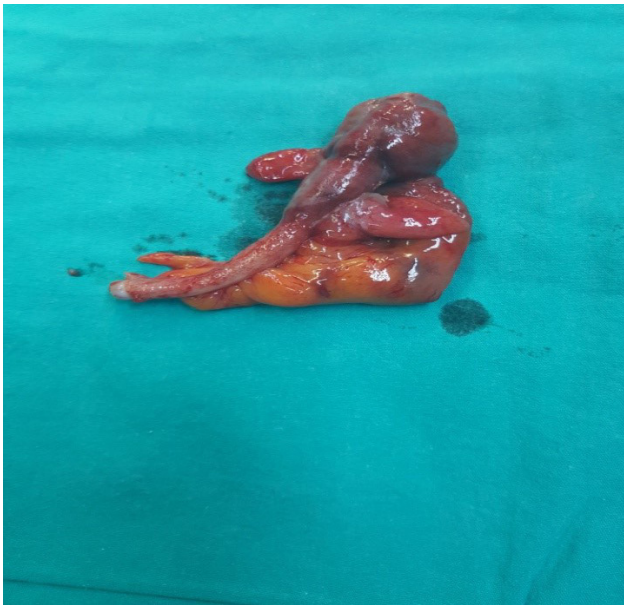

Figure 2. Appendectomy specimen

more common in inguinal hernias on the right, there are cases where Amyand hernia is reported to be on the left, such as the mobile right colon, situs inversus, and malrotation [4, 6]. Our patient was a male, and the Amyand hernia was on the right side.

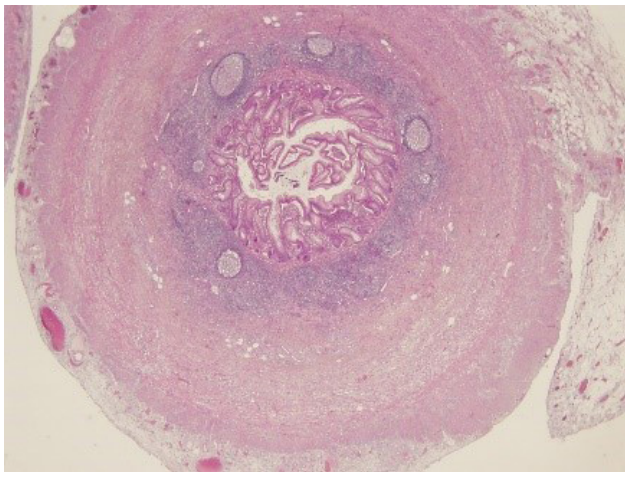

Figure 3. Microscopic image of the specimen; exudative infection with pus and fibrin invading all the wall layers (10×, hematoxylin and eosin)

Amyand hernia is rarely diagnosed in the preoperative period. Imaging methods such as ultrasound, computed tomography, and magnetic resonance imaging may be helpful for preoperative diagnosis, but radiologic imaging is not routinely recommended as it will not change the treatment approach [7]. The surgical approach was decided after the physical examination and clinical evaluation in our case as well, and no radiological imaging was found to be necessary.

The surgical procedure changes according to the condition of the appendix inside the hernia sac. If the appendix is inflamed or perforated, then the inguinal hernia repair with appendectomy is more suitable. There are some studies suggesting appendectomy of children and adolescents with normal appendix due a high appendicitis risk in the future [8]. Appendectomy is not recommended in elderly patients with normal appendices because of the prolongation of the surgical period, the presence of an additional systemic disease, and the low risk of appendicitis in the future [9]. Ofili defended the idea of prophylactic appendectomy, saying that the risk of developing appendicitis due to inflammation after the manipulation during the surgical procedure in Amyand hernia cases should be eliminated even though the appendix is normal [10]. The use of prosthetic mesh in the repair of hernia is another controversial issue about the surgical approach. There are studies showing an increase in the risk of developing a fistula through the appendiceal defect, inflammatory response due to the use of prosthetic material, and the wound infection because of contamination [9]. If there is contamination of the surgical site due to appendicitis, primer repair methods should be

considered instead of the mesh. The mesh can be applied provided that the surgical site is kept clean and that the patient is given an adequate antibiotic support [6]. However, to the best of our knowledge, there is no case series in the literature broad enough to provide a consensus. Losanoff and Basson classified the Amyand hernia types and treatment protocols into four groups [8]. According to this classification, our case was Type 2 Amyand hernia, and we performed appendectomy, high ligation, and hernia repair with the prosthetic material m. No complications were found after an 8-week follow-up.

In conclusion, Amyand hernia is a rare type of hernia that is often diagnosed during a surgical procedure. There is no exact treatment protocol, and the factors such as appendicitis, age, contamination of surgical field, and the size of the hernia defect should be considered. The surgeon must have enough knowledge on this hernia type and the treatment modalities.

Informed Consent: Written informed consent was obtained from the patient who participated in this study.

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