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Incarcerated recurrent Amyand's hernia: a case report

İnkarsere tekrarlamış inguinal herni: vaka takdimi

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Abstract
With this case report, we aimed to discuss clinical presentation and treatment of perforated appendicitis and scrotal abscess in the sac of the recurrent incacerated henia. On 18 May 2014, 49 years old, male, patient applied to the Malatya State Hospital emergency department with right scrotal swelling. The patient had right lower abdomen and right inguinal pain complaints having continued for ten days and increased fewer and vomiting in fecaloid form for the last 48 hours. There was also incarcerated inguinal hernia on the left side. With these findings, patient was emergently operated with the diagnosis of incarcerated inguinal hernia. When the hernia sac was opened, an inflamed and perforated appendix was observed inside.
Although, rarely seen and preoperative diagnosis is difficult, in patients coming to the emergency department with high fever, incarcerated hernia, increased scrotal temperature and redness, Amyand's hernia should be kept in mind.
Keywords: Amyand Hernia; Acute Appendicitis; Inguinal Hernia.

Öz
Bu vaka sunumu ile nüks inkarsere herni kesesindeki perfore apandisit ve scrotal apseli olgunun klinik prezentasyonu ve tedavisinin literatür ışığında tartışılması amaçlandı.
49 yaşında erkek hasta 18 Mayıs 2014 tarihinde Malatya devlet hastanesi acil servisine sağ scrotal şişlik ile başvurdu. Hasta acil servise yaklaşık 10 gündür olan ve giderek artan sağ scrotal şişlik,sağ alt batın ve kasık ağrısı ve son 48 saattir ateş yükselmesi,fekaloid kusma şikayetleri ile başvurdu. Ayrıca sol taraftada da sıkışmış inguinal herni mevcuttu. Hasta mevcut bulgularla bilateral inkarsere inguinal herni tanısıyla acil operasyona alındı. Fıtık kesesi açıldığında içerisinde inflame appendiks olduğu ve perfore olduğu görüldü.
Acil servise başvurmuş ateşi yüksek, inkarsere olmuş,scrotal ısı artışı ve kızarıklığı olan bu gibi hastalarda Amyant herni akla getirilmeli ve ameliyat öncesi tanısı zor ve nadir görülüyor olsa da karşılaşılabileceği akılda tutulmalıdır.
Anahtar Kelimeler: Amyand Herni; Akut Apandisit; İnguinal Herni.

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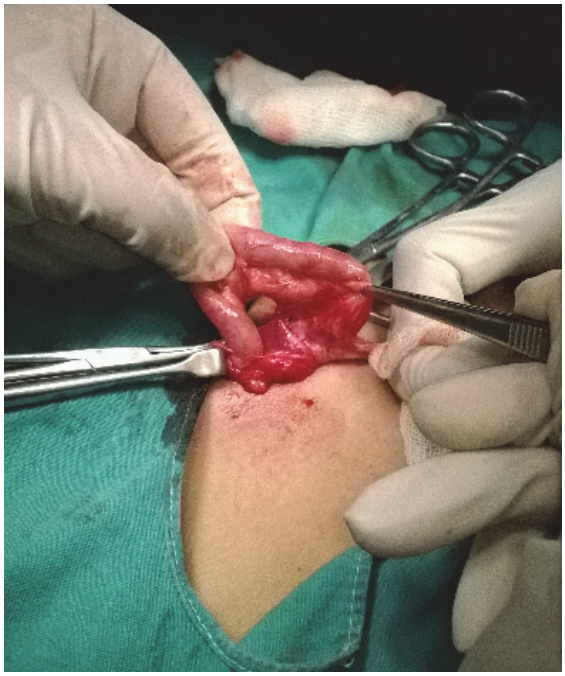
INTRODUCTION

Inguinal hernia, including Appendix Vermiformis in sac is called Amyand Hernia. The prevalance of acute appendicitis in inguinal hernia sac is %1. The presence of appendix in incarcerated inguinal hernia is %0.13-0.62. It can only be diagnosed per-operatory (1-2). Appropriate approach is determined according to the inflammatory situation of the appendix in the hernia sac (3). With this case report, we aimed to discuss clinical presentation and treatment of perforated appendicitis and scrotal abscess in the sac of the recurrent incarcerated hernia in the light of the literature.

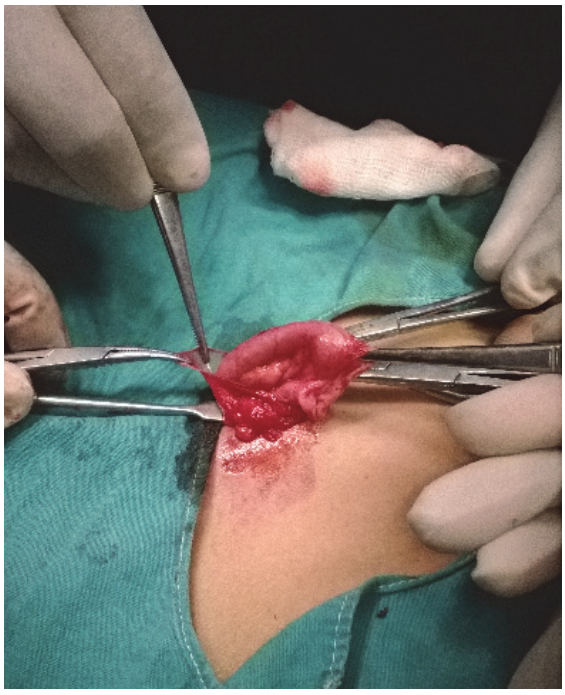
CASE REPORT

The patient, is a 49 years old worker. He is 182 cm tall and 90 kg. BMI: 27.2. The patient without a chronic disease has no history of hernia in his family. Five years ago, he was operated due to the right inguinal hernias. Before he was operated, he had had hernia for five years. Mesh was unused. He had had recurrent right inguinal and primary left inguinal hernia, for four years,. The patient came to the emergency department with right scrotal swelling, right lower abdomen and right inguinal pain complains having continued for ten days and increased fever and vomiting in fecaloid form for the last 48 hours. The patient had gas and gaita discharge and his fever was 39, 2 degrees. When examined physically, the patient had swelling and redness on the right scrotum. There was also incarcerated inguinal hernia on the left side. Left hernia was reduced. The right hernia could not be reduced. Rectal examination was normal and bowel sounds were hypoactive.

White cell count: 12400/ mm^3, C-reaktive protein: 23.5/mg/dl, Sedimentation: 18/ hour, Total Bilirubin: 1.45 mg/dl, Indirect Bilirubin: 1.06 mg/dl and urine examination was normal. There were 3 air-fluid levels in upright abdominal x-ray. In emergent scrotal ultrasonography (USG) done on the right scrotum, there was a cystic view containing septates and echoes of air and a 112x120-mm in size and in the left scrotum, views belonging to ans the bowel. In emergent abdominal USG done, a 16-mm calculus was observed in gall bladder, but there was no emergent sonographicial findings. With these findings, patient was emergently operated with the diagnosis of incarcerated inguinal hernia. The right side hernia region was opened and some 500 cc.-pus was drained. When the hernia sac was opened, an inflamed and perforated appendix was observed inside (Picture 1). Appendix was adherent to the testis. Appendix was swgically separated from the testis (Picture 2). The abscess of peritesticular region was drained by opening to the surrounding layers. Due to the fact that testicular circulation was sufficient and not damaged, and because of the patient's age, orchiectomy wasn't performed and a drain was put to the region. Hernia defect was repaired through modified Shouldice method. The left side hernia was repaired with mesh. Then the abdomen was explorated by opening lower abdominal median incision. Appendix anteromedially lasted was excised. There was no significand pathology in the intestinal structure. There was no intra-abdominal pus. In the postoperative period, Ceftriaxone 1g and Metronidasole 500 mg, via I.V. was used. On forth day, drains were pulled out and on fifth day, he was discharged. During the 6-month follow up period, the postoperative course was uneventful.



Picture 1. Appendix in the hernia sac



Picture 2. Appendix in the hernia sac

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DISCUSSION

Inguinal Hernia is defined as the change of location of intraabdominal organs with their serosas from the weakened points in the abdominal wall. Appendix in hernia sac is called Amyand's hernia. Appendix, in the pouch may be in normal structure or inflamed. Treatment is determined according to state of appendix inflammation. In these patients, normal appendix was incarcerated by internal inguinal ring or muscles of the abdominal wall. This situation causes edema and inflammation to the appendix in the hernia sac, consequently acute appendicit occurs. (4).Our patient was operated 5 years ago, he had a relapsed hernia for four years. In this 4-year period, he had swellings from time to time and it was reductable. But for the past 10 days before the operation, he had had persistent swelling and pain. In our patient, we think the appendix was compressed by internal ring; the occurred appendicitis was perforated and adhered to the testis because of purulent infection.

Many of Amyand's hernias can be determined per-operatively. However, pre-operatively, in patients with suspected Amyand's hernia the pathology, can be diagnosed with computed tomography or ultrasound a with cost effective and non radiation method (5).

Losanoff and Basson created a classification scale to define and treat Amyand's hernias (6) (Table 1). To this classification, our patient was type 3; therefore, hernia repair without mesh, apendectomy and laparatomy were performed.

It is argueable whether appendix vermiformis in sac should be resected or whether mesh should be used for hernia repairing. The situation of appendix inflammation, age of patient and whether surgical place is infected or not, direct the surgical treatment protocol to be practiced in Amyand's hernia.

If there isn't acute appendicitis or perforation in Amyand's hernia, repairing with mesh is recommended. Anatomic repairs are recommended when there is acute appendicitis or perforation (6).

While, appendectomy is necessary in case of acute or perforated appendicitis, in case of normal appendix, it can be omitted (7). However, some authors assert that appendectomy should be done, if appendix is seen within hernia sac (8). Ofili reported that 11 patients had been operated due to Amyand's hernia in his series, but in none of the these patients were encountered recurrent hernia or wound infection. Therefore, he claimed that appendectomy should to be done in all Amyand's hernias (7).

Table 1. Losanoff and Basson classification of Amyand's hernia

	Classific Descriptionation	Surgical Management
Type 1	Normal appendix in an inguinal hernia.	Hernia reduction, mesh repair.
Type 2	Acute appendicitis in an inguinal hernia, without abdominal sepsis.	Appendectomy, primary repair of hernia without mesh.
Type 3	Acute appendicitis in an inguinal hernia, with abdominal wall or peritoneal sepsis.	Laparatomy, appendectomy, primary repair without mesh.
Type 4	Acute appendicitis in an inguinal hernia, with abdominal pathology.	Manage as Type 1–3, investigate pathology as needed.

The indications of orchiectomy in incarcerated inguinal hernias are usually vague. Orchiectomy during herniorhaphy should be limited to cases of specific testicular and cord abnormalities (9).

Due to the fact that spermatic cord and testis incolved no pathological process, orchiopexy was performed and the testis was fixed to scrotum.

CONCLUSION

Although, rarely seen and preoperative diagnosis is difficult, in patients coming to the emergency department with high temperature, incarcerated hernia, increased scrotal temperature and redness, Amyand's hernia should be kept in mind.

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