

## A Surgical Surprise During Laparoscopic Transabdominal Preperitoneal Repair; Undescended Testis

### Laparoskopik Transabdominal Preperitoneal Onarım Sırasında Cerrahi Bir Sürpriz; İnmemiş Testis

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#### Abstract

Undescended testis (cryptorchidism) is a common congenital anomaly in childhood but rarely seen in adults. Inguinal hernia can occasionally coexist with undescended testes, although such a presentation is uncommon in adult patients. We report a rare case of a 28-year-old male with a right inguinal hernia who was found to have an atrophic testis within the hernia sac during laparoscopic transabdominal preperitoneal (TAPP) repair. The patient had a history of bilateral orchiopexy in infancy. Preoperative ultrasonography did not detect the undescended testis. Intraoperatively, orchiectomy was performed following urology consultation, and the TAPP procedure was completed successfully. The postoperative course was uneventful, and pathology revealed an atrophic testis without malignancy. This case highlights the importance of preoperative suspicion and the benefits of the laparoscopic approach in managing such coexisting pathologies in adults.

**Keywords:** Cryptorchidism, Inguinal Hernia, Laparoscopy, Orchiectomy, TAPP

#### Öz

Kriptorşidizm, skrotumda testislerin olmaması olarak tanımlanır. Bu durum erkek çocuklarda yaygın olsa da yetişkin hastalarda nadirdir. Kriptorşidizm ve kasık fıtığı arasındaki ilişki çocukluk çağında sıklıkla görülür ancak yetişkinlerde veya yaşlılarda nadirdir (1,2). Bu çalışmada, hem kriptorşidizm hem de kasık fıtığı teşhisi konulan yetişkin bir erkek hasta laparoskopik cerrahi teknikleri kullanılarak başarıyla tedavi edildi (3). Hasta laparoskopik transabdominal preperitoneal onarım ve orşiektomi prosedürlerine tabi tutuldu. Ameliyat sonrası herhangi bir komplikasyon gelişmedi ve hasta ameliyattan sonraki ikinci gün taburcu edildi. Patolojik incelemede malignitesi olmayan atrofik bir testis ortaya çıktı. Takip sırasında herni tekrarı görülmedi. Yetişkin hastalarda kasık fıtığı ve kriptorşidizmin kombine patolojisinde laparoskopik yaklaşım uygulanabilir bir seçenek sunar ve tanı ve tedavide çeşitli avantajlar sağlar.

Amacımız inguinal herniye eşlik eden kriptorşidizm olgularında minimal invaziv yaklaşımın avantajını ve postoperatif sonuçları vurgulamaktır.

**Anahtar Kelimeler:** Kriptorşidizm, Kasık Fıtığı, Laparoskopi, Orşiektomi, TAPP

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## Introduction

Cryptorchidism is defined as the absence of testes in the scrotum. Although this condition is common in male children, it is rare in adult patients. The association between cryptorchidism and inguinal hernia is frequently observed in childhood but is uncommon in adults or the elderly (1,2). In this study, an adult male diagnosed with both cryptorchidism and inguinal hernia was successfully managed using laparoscopic surgical techniques (3). The patient underwent laparoscopic transabdominal preperitoneal repair and orchiectomy procedures. No postoperative complications developed, and the patient was discharged on the second day post-operation. Pathological examination revealed an atrophic testis with no malignancy. No recurrence of hernia was observed during follow-up. The laparoscopic approach in combined pathology of inguinal hernia and cryptorchidism in adult patients offers a feasible option and provides several advantages in diagnosis and treatment.

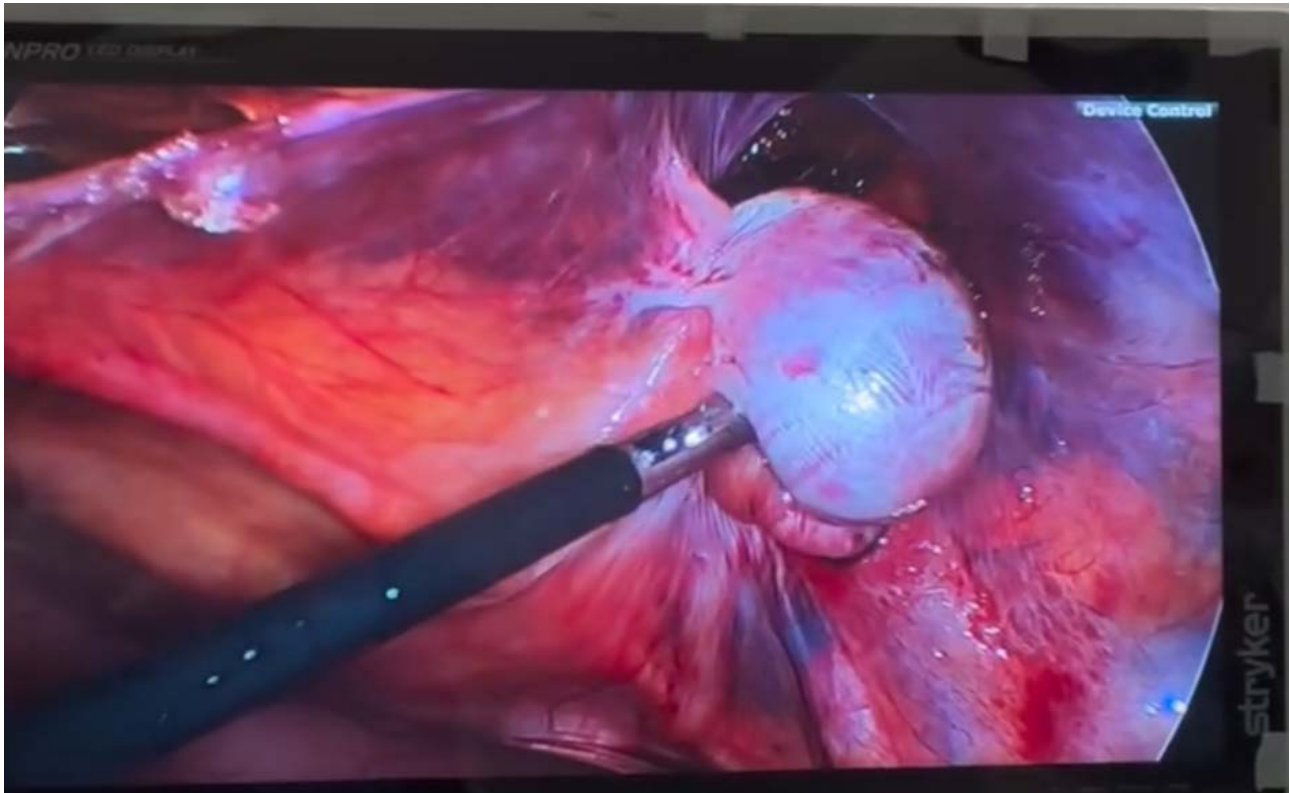
Our aim is to emphasize the advantage of a minimally invasive approach and postoperative outcomes in cases of cryptorchidism associated with inguinal hernia.

## Case

A 28-year-old male patient with no known disease was admitted to our general surgery clinic with a swelling in his right groin that had persisted for six months. Physical examination revealed incisions in both inguinal regions from previous operations. The patient reported having surgery for an undescended testis as an infant, and no testis could be palpated in the right scrotum.

A reducible right inguinal hernia was present, and the left testis was observed within the scrotum. With ultrasound findings supporting the physical examination, surgery using the laparoscopic transabdominal preperitoneal (TAPP) technique was decided. Preoperative ultrasonography identified a right inguinal hernia but did not report an undescended testis. The patient had a history of bilateral orchiopexy in infancy.

During surgical exploration, no defect was observed in the left inguinal canal. An indirect hernia, which included the right inguinal canal and the testis herniating lateral to the inferior epigastric vessels, was identified. After reducing the hernia sac, an atrophic testis was found along with the spermatic cord and testicular vessels (Figure 1).



**Figure 1.** Laparoscopic view of the undescended testis

The urologist was invited to the perioperative case. Given the atrophic structure of the testis, primary excision was recommended and performed. The informed consent process included the possibility of orchiectomy in case of intraoperative detection of an atrophic or ectopic testis.

The TAPP procedure was applied. The surgery lasted 80 minutes, and the patient was discharged on the second postoperative day without complications. Histopathological examination reported an atrophic testis. No signs of recurrence were detected in imaging during the 6 and 12-month follow-ups.

## Discussion

Cryptorchidism is the most common congenital anomaly of male genitalia, affecting approximately 1% of one-year-old boys (1). It is characterized by one or both testes remaining in the abdomen or inguinal canal since birth (5). Although the condition typically presents in childhood, undiagnosed cases may persist into adulthood (2). Inguinal hernia is seen in about 7% of children with cryptorchidism (1). While this association is frequent in pediatric patients, it can also be observed in adults (3). Untreated cryptorchidism has the potential to impair spermatogenesis, primarily because germ cells in the undescended testis begin to deteriorate after the first year of life. Furthermore, after puberty, the functionality of undescended testes diminishes, and fertility rates generally decline even after orchiopexy procedures (3).

Laparoscopic repair of inguinal hernias is considered the standard of care, especially for bilateral inguinal hernias (6, 7). Compared to open surgery, laparoscopic approaches offer numerous advantages, including less postoperative pain, a lower risk of surgical site infection, and higher rates of early discharge. Additionally, laparoscopic methods increase the possibility of detecting and repairing ipsilateral or contralateral hernias (8).

In this case, the operation duration was recorded as 80 minutes. The postoperative period progressed smoothly, and the patient was discharged on the second day. No recurrence of hernia was observed during the one-year follow-up. These results support the efficacy and safety of laparoscopic repair and emphasize the importance of this approach in managing cryptorchidism and related conditions. Several case reports in the literature have highlighted the management of adult patients with coexistent inguinal hernia and cryptorchidism. Fujishima et al. described the totally extraperitoneal (TEP) approach in combination with orchiectomy, emphasizing the feasibility of treating both conditions under a single laparoscopic view (4). Similarly, Ungureanu et al. presented a series of adult patients treated with laparoscopic techniques, underlining the importance of preoperative diagnosis and intraoperative flexibility (3). In rare cases, an undescended testis may be incidentally discovered during hernia surgery, as noted by Sepulveda et al., and careful dissection and urology consultation are essential to avoid complications (7). While TEP is another minimally invasive option, the TAPP approach may be more suitable in uncertain anatomical situations or when intra-abdominal visualization is preferred. The choice between TEP and TAPP may depend on surgeon experience, available equipment, and intraoperative findings.

## Conclusion

This case demonstrates the feasibility and safety of simultaneous laparoscopic hernia repair and orchiectomy in adult patients with cryptorchidism. The laparoscopic approach offers both diagnostic and therapeutic advantages in rare coexisting conditions.

**Ethical Approval:** Informed consent form was obtained from the patient (February 21, 2025).

### Author Contributions:

Concept: Ö.K.

Literature Review: Ö.K., A.O.Ç.

Design : B.T., M.K.

Data acquisition: Ö.K., A.O.Ç.

Analysis and interpretation: Ö.K., A.O.Ç.

Writing manuscript: Ö.K., A.O.Ç.

Critical revision of manuscript: Ö.K., A.O.Ç.

**Conflict of Interest:** The authors have no conflicts of interest to declare.

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