

# Videoscopic total extraperitoneal approach to an adult patient with undescended testicle accompanied by a contralateral inguinal hernia

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## ABSTRACT

A 22-year-old male patient was admitted to our clinic with complaints of swelling and pain at the left groin area as well as inability to palpate his right testicle. The patient was diagnosed as right undescended testicle accompanied by left indirect inguinal hernia. According to the scrotal Doppler ultrasonography the right undescended testicle was localized in the inguinal canal very close to the inner ring. As totally extra peritoneal (TEP) approach is widely used for inguinal hernia repair by hernia surgeons, the same technique was planned for both inguinal hernia repair and orchiectomy simultaneously. Using videoscopic TEP approach, left inguinal hernia repair and right prophylactic inguinal hernia repair with polypropylene mesh was carried out following successful laparoscopic right orchiectomy. In patients with undescended testicle who are indicated for orchiectomy and accompanied by inguinal hernia, videoscopic TEP operation is a safe procedure, also providing the opportunity for prophylactic hernia repair at the orchiectomy site.

**Key Words:** Undescended testis, inguinal hernia, groin hernia, totally extra peritoneal, TEP, videoscopic orchiectomy

## INTRODUCTION

Videoscopic inguinal hernia surgery with total extra-peritoneal approach (TEP) and transabdominal pre-peritoneal approach (TAP) are widely used methods by hernia surgeons with similar long-term results (1). TEP is used more frequently since the operation is performed without entering the intraperitoneal cavity, resulting in less postoperative pain and earlier recovery (2). Based on our experience with inguinal hernia repair, it is known that TEP approach provides a very easy access to the inner ring of the inguinal canal and all the other structures in the Retzius space. In the literature, the value of laparoscopy in pediatric patients with undescended testis is well defined, while in adults there are only a few reports regarding laparoscopic treatment (3). However, any reports on the TEP approach in adult or pediatric patients with undescended testis could not be found in the literature.

## CASE PRESENTATION

A 22-year-old male presented with complaints of inability to palpate his right testis and a painful swelling in his left groin. He was evaluated in Urology and General Surgery outpatient clinics and was diagnosed with left indirect inguinal hernia accompanied by right undescended testis. Scrotal Doppler ultrasonography located the right undescended testicle in the inguinal canal, in close proximity to the inner ring. A videoscopic TEP approach was planned by Urology and General Surgery Clinics, to pair the left inguinal hernia and perform a right orchiectomy from the pre-peritoneal space followed by closure of the right internal inguinal ring with polypropylene mesh via the TEP approach. The patient was given detailed information about the planned procedure and possible complications and an oral and written informed consent was taken. The General Surgery and Urology Clinics performed the operation together. The patient was in the supine position, after induction of general anesthesia, a 1.5 cm incision just below the umbilicus was made and a 10 mm camera port was introduced into the pre-peritoneal space behind the rectus muscle. The field was inflated with carbon dioxide gas up to 12 mmHg pressure, the area created in the pre-peritoneal space was dissected with the help of camera movements, and the inner ring of the inguinal canal was exposed on both sides. Two additional 5 mm ports were placed in the pre-peritoneal space between the umbilicus and the symphysis pubis, for laparoscopic graspers. The left indirect inguinal hernia was reduced to the pre-peritoneal space and the inguinal canal is covered with polypropylene mesh (Figures 1, 2). With traction of the spermatic cord towards the pre-peritoneal area on the right side,

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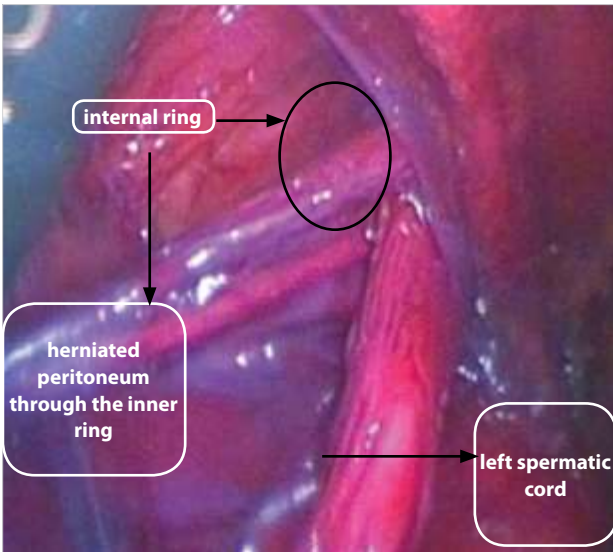


Figure 1. Left indirect inguinal hernia; left internal ring, herniated peritoneum and left spermatic cord



Figure 2. Prolene greft repair of left inguinal hernia

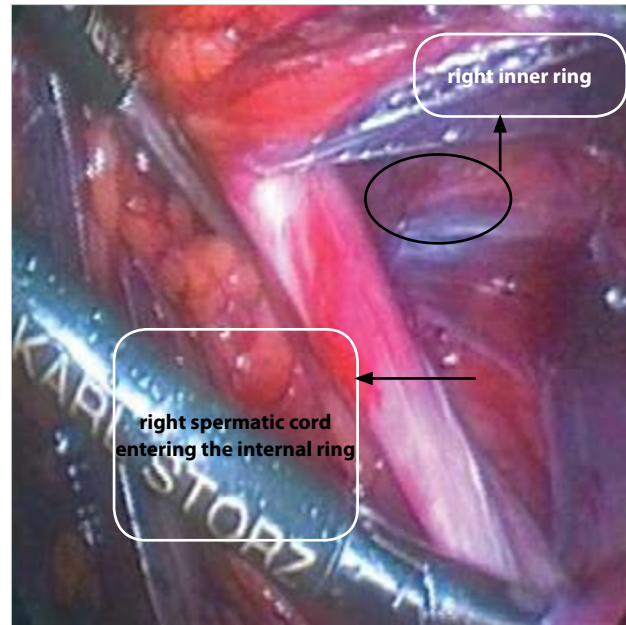


Figure 3. Right inguinal region structures; right inguinal canal internal ring and right spermatic cord through the internal ring

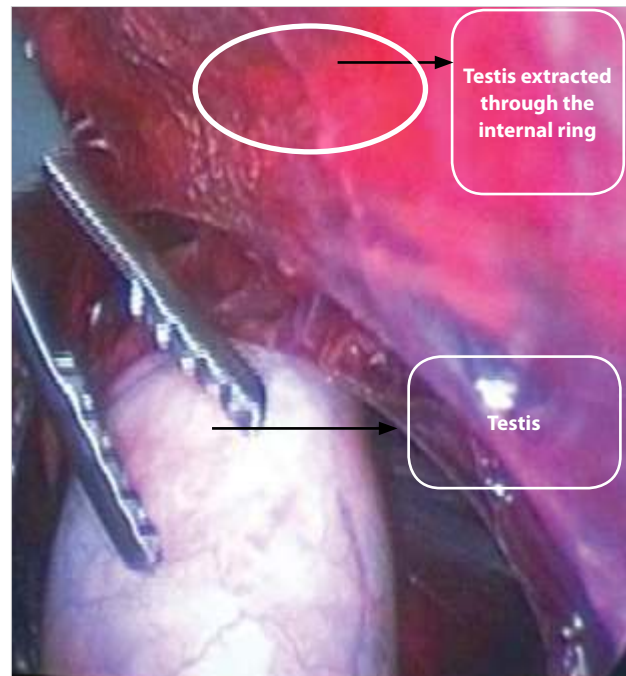


Figure 4. The extraction of right undescended testis located in the inguinal canal through the internal ring to the preperitoneal area

the right testicle was visualized from the inner ring of the inguinal canal, by minimal dilation of the inner ring the testicle was carried to the pre-peritoneum and dissected from its adhesions by monopolar cautery (Figure 3, 4). Finally, vas deferens and testicular vessels entering the testicle have been separately clipped and detached from the testicle (Figure 5a, b). The enlarged right inguinal canal inner ring was closed by using a polypropylene mesh and prophylactic inguinal hernia repair was done on the right side. The testicle was extracted through the suprapubic trocar site, after the incision was extended to 2 cm. and the right orchietomy was completed (Figure 6-8). He was discharged on the first postoperative day, there were no complications during the follow-up. The pathological examination of the excised testicle was reported as atrophic testis.

#### DISCUSSION

A right orchietomy, left inguinal hernia repair and right prophylactic inguinal hernia repair were performed in a single session by videoscopic TEP approach. In the literature, the TEP method has been suggested because it offers simultaneous access to both groins (4). The operation was performed by using 2 straight grasper, a 30 degrees 10 mm camera and routine monopolar cautery that are being used in all laparoscopic surgeries, without necessity of expensive hardware such as angulated hand tools or other coagulating and cutting instruments using ultrasonic energy, therefore this operation did not impose an additional cost. The operation was completed

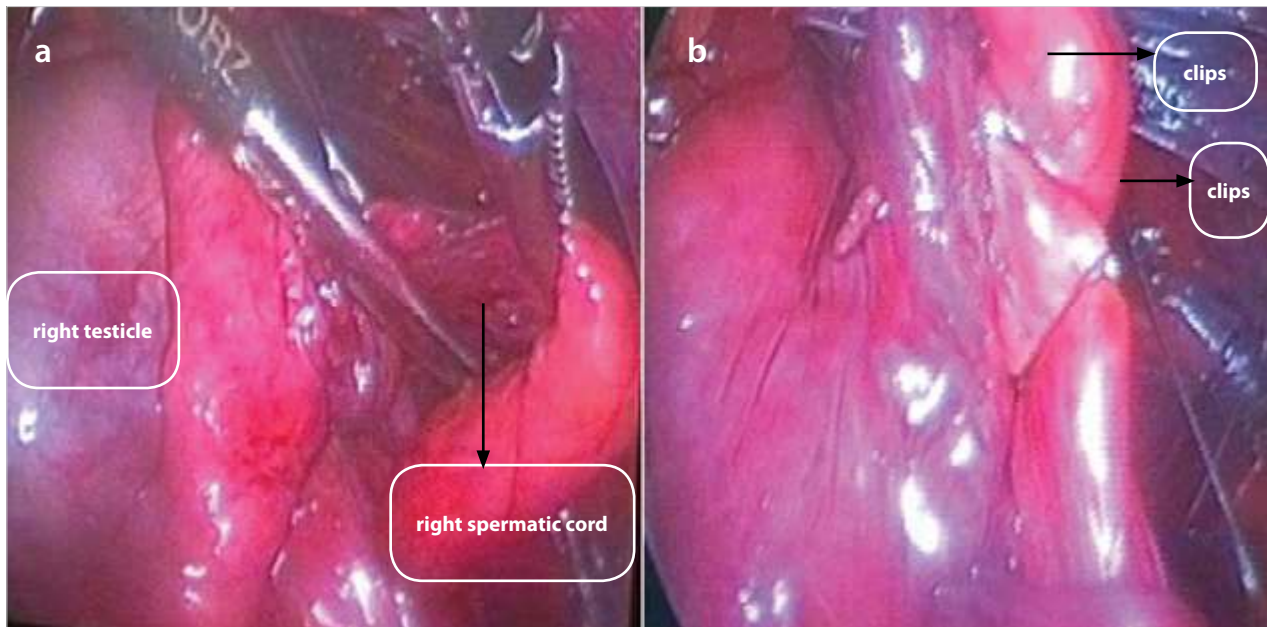


Figure 5. a,b Transection of the right spermatic cord

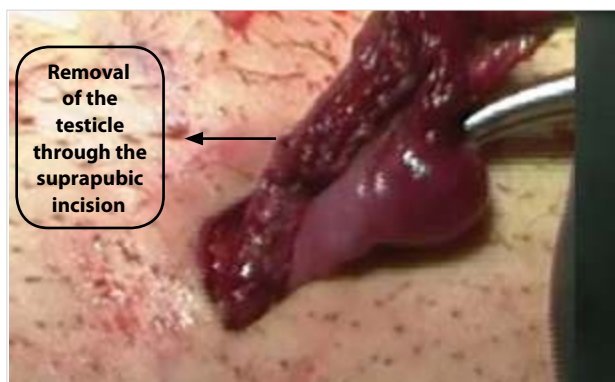


Figure 6. Removal of the testicle through the suprapubic incision



Figure 7. Excised testicle

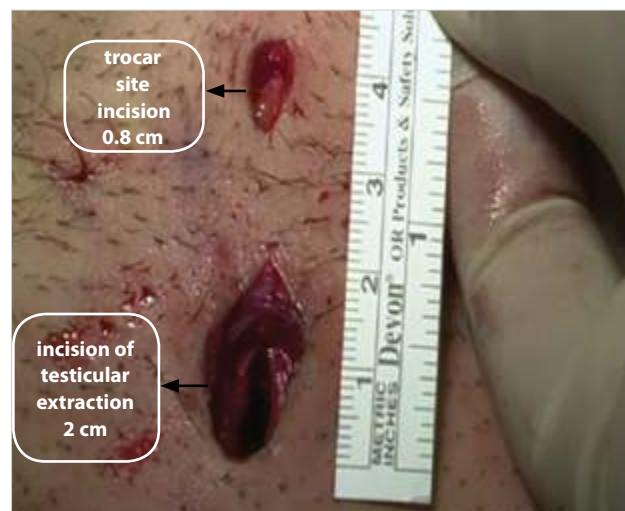


Figure 8. Incisions

series, this surgery is expected to last shorter. There were no complications during either the perioperative or the postoperative process.

#### CONCLUSION

In patients who have an indication for orchiectomy and concomitant inguinal hernia, videoscopic TEP approach can be safely used for the simultaneously treatment of both diseases.

**Informed Consent:** Written informed consent was obtained from patient who participated in this case.

**Peer-review:** Externally peer-reviewed.

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in 90 minutes, we believe this duration to be acceptable for a surgery including bilateral inguinal hernia repair and orchiectomy. However, with the increase in number of cases in this

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