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Simultaneous laparoscopic TAPP repair and varicocelectomy in a recurrent left inguinal hernia patient: A video case report

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Abstract

Recurrent inguinal hernias and varicoceles are common surgical conditions; however, their concurrent presentation and simultaneous laparoscopic management are rarely reported. A 34-year-old male presented with swelling and discomfort in the left groin and scrotum. He had a history of open anterior mesh repair for a left inguinal hernia four years prior. Physical examination and ultrasonography confirmed a recurrent left indirect inguinal hernia and grade II varicocele. The patient was scheduled for simultaneous laparoscopic transabdominal preperitoneal (TAPP) hernia repair and varicocelectomy. Dense adhesions related to the prior anterior hernia repair were carefully dissected. A 3D polypropylene mesh was placed and fixed in the preperitoneal space, followed by peritoneal closure with a V-Loc™ suture. The dilated pampiniform plexus veins were clipped and divided using LigaSure™, sparing the testicular artery. The procedure was completed without complications, and the patient was discharged the next day with a VAS score near zero. This video case demonstrates that simultaneous laparoscopic TAPP repair and varicocelectomy can be safely performed in selected patients with dual pathology. This combined approach minimizes operative burden, avoids multiple incisions, and optimizes patient recovery.

Keywords: laparoscopic hernia repair, TAPP, varicocelectomy, recurrent inguinal hernia, minimally invasive surgery

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Informed Consent
The authors stated that the written consent was obtained from the patient presented with images in the study.

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Introduction

The inguinal hernia is one of the most common surgical conditions worldwide, with a lifetime risk estimated at 27% in men and 3% in women [1]. While surgeons frequently use open anterior mesh repair for primary inguinal hernias, they often require a different approach for recurrent cases due to fibrotic changes and distorted anatomy. In such scenarios, laparoscopic techniques—particularly the transabdominal preperitoneal (TAPP) approach—offer superior visualization of the myopectineal orifice and effective access to the preperitoneal space [2, 3].

Varicocele, defined as abnormal dilatation of the pampiniform venous plexus, affects approximately 15% of men in the general population and up to 40% of those with infertility [4]. The gold standard treatment is microsurgical subinguinal varicocelectomy, which has the lowest recurrence and complication rates [5]. However, laparoscopic varicocelectomy remains a valid alternative in cases requiring intra-abdominal access or bilateral treatment [6].

Despite the high prevalence of both pathologies, simultaneous laparoscopic management of recurrent inguinal hernia and varicocele has been rarely documented. We present a video case report of a 34-year-old male with recurrent left inguinal hernia and ipsilateral varicocele who underwent successful combined laparoscopic TAPP repair and varicocelectomy.

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Case presentation

A 34-year-old male presented to our outpatient clinic with complaints of swelling and a dragging sensation in the left groin, accompanied by intermittent scrotal discomfort. His medical history included a left inguinal hernia repair performed four years earlier using an open anterior mesh technique. He had no chronic illnesses and was not on any regular medications.

On physical examination, a reducible bulge was noted in the left inguinal region, and prominent scrotal veins were palpable on the left side. Scrotal Doppler ultrasonography revealed a grade II varicocele, with dilated pampiniform plexus veins measuring 4.6 mm and demonstrating prolonged reflux during the Valsalva maneuver. Additionally, superficial soft tissue ultrasound identified a 16 × 8 mm segment of omental fatty tissue protruding through a 6 mm fascial defect in the left inguinal area, consistent with an indirect recurrent hernia. There were no signs of incarceration or strangulation. Based on these findings, the patient was scheduled for a simultaneous laparoscopic transabdominal preperitoneal (TAPP) hernia repair and varicocelectomy.

Under general anesthesia, pneumoperitoneum was established and laparoscopic access was achieved via a 10 mm infraumbilical trocar. Intraoperative exploration confirmed the presence of a left-sided indirect hernia protruding laterally to the inferior epigastric vessels. The right inguinal canal was inspected and found to be intact.

The lateral peritoneum on the left was incised, and the preperitoneal space was developed. Dense adhesions were encountered around the spermatic cord due to the prior open repair, with the cord notably displaced medially. These adhesions were carefully dissected to isolate the cord elements and mobilize the hernia sac.

Following reduction of the hernia, attention was turned to the varicocele. The pampiniform venous plexus was skeletonized, and dilated veins were clipped and divided using a LigaSure™ vessel sealing device, with careful preservation of the testicular artery and lymphatics.

A 15 × 10 cm 3D polypropylene mesh was placed over the myopectineal orifice and fixed using a tacker device at the pubic tubercle and the anterior abdominal wall. The peritoneum was closed with a barbed V-Loc™ suture, and meticulous hemostasis was confirmed. No drain was inserted, and all trocar sites were closed in standard fashion.

The total operative time was 90 minutes. No intraoperative or postoperative complications occurred. The patient reported minimal postoperative pain, with a Visual Analog Scale (VAS) score near zero, and was discharged uneventfully on postoperative day one. Although no routine postoperative imaging was obtained, the patient reported complete resolution of symptoms at the clinical follow-up.

Written informed consent was obtained from the patient for both the surgical procedure and the publication of this case report, including the accompanying video.

Operative Video Description

The accompanying video demonstrates the key surgical steps of a simultaneous laparoscopic transabdominal preperitoneal (TAPP) repair and varicocelectomy in a patient with a recurrent left indirect inguinal hernia and ipsilateral grade II varicocele.

Step 1: Port Placement and Exploration

After insufflation via a 10 mm infraumbilical trocar, two additional trocars were placed under direct vision in the left and right lower quadrants. The initial inspection confirmed a left-sided indirect hernia lateral to the inferior epigastric vessels, and an intact right inguinal canal.

Step 2: Peritoneal Incision and Preperitoneal Dissection

Dense adhesions related to the previous open anterior repair were encountered, which posed a risk of cord or vascular injury. We, therefore, combined sharp and blunt dissection to safely expose the cord structures. This step highlights the importance of maintaining a clear laparoscopic view when dealing with recurrent hernias.

Step 3: Varicocelectomy

With the preperitoneal space opened, the dilated pampiniform venous plexus was identified. The veins were dissected free, clipped proximally and distally, and then divided using a LigaSure™ vessel sealing system. Care was taken to preserve the testicular artery and lymphatic channels. The pampiniform plexus was carefully dissected and exposed to allow selective clipping of the dilated vessels while preserving the testicular artery and lymphatic channels. This artery-sparing approach minimizes the risk of testicular atrophy and postoperative hydrocele, key teaching points when performing laparoscopic varicocelectomy.

Step 4: Mesh Placement and Fixation

A 15 × 10 cm 3D polypropylene mesh was introduced into the preperitoneal space. It was fixed using a tacker to the pubic tubercle medially and the anterior abdominal wall laterally, which adequately covered the myopectineal orifice. A 3D polypropylene mesh was selected to provide optimal anatomical conformity in the recurrent setting, as distorted planes may increase the risk of recurrence if a flat mesh is used. The fixation points were chosen to avoid neurovascular injury.

Step 5: Peritoneal Closure and Completion

The peritoneum was closed with a continuous barbed V-Loc™ suture. Final inspection confirmed hemostasis and appropriate mesh placement. No drains were placed. Trocar sites were closed in layers.

The video illustrates the technical feasibility of addressing both pathologies laparoscopically within a single operative session, utilizing shared port sites and minimizing tissue trauma.

The full surgical procedure can be viewed in the supplementary video available at: https://www.youtube.com/watch?v=t-g4qLcy8L4.

Discussion

Recurrent inguinal hernia repair often presents technical difficulties due to scarring, altered tissue planes, and the presence of prior mesh. The TAPP approach provides excellent visualization of the myopectineal orifice, allowing surgeons to identify key landmarks and perform safe dissection despite a distorted anatomy. In this case, the laparoscopic view enabled precise reduction of the hernia sac and placement of a new mesh without disturbing the previously inserted anterior mesh. Guidelines from the European Hernia Society recommend

laparoscopic repair as the preferred approach in recurrent hernias following anterior repairs, highlighting its superiority in such settings. Registry-based analyses, such as those from the Herniamed Registry, also confirm low recurrence and complication rates with TAPP and totally extraperitoneal (TEP) in reoperative cases, further supporting this strategy [2, 3, 7].

In this case, TAPP repair allowed for the precise identification of anatomical landmarks despite the presence of dense adhesions around the spermatic cord. The laparoscopic view enabled safe reduction of the hernia sac and proper placement of a new mesh without disturbing the previously placed anterior mesh. Similar outcomes have been reported in registry-based analyses, such as the Herniamed Registry, where TAPP and TEP techniques yielded low recurrence and complication rates in reoperative settings [7].

Varicocele is one of the most common surgically correctable causes of male infertility, affecting up to 15% of men in the general population and more than one-third of those with infertility [4]. While the microsurgical subinguinal approach remains the gold standard, laparoscopic varicocelectomy offers distinct advantages in selected cases. The magnified laparoscopic view facilitates artery-sparing dissection, minimizing the risks of testicular atrophy and hydrocele formation. This approach is particularly valuable in bilateral disease, failed prior interventions, or when intra-abdominal access is already indicated, as in the present case. Although meta-analyses suggest slightly higher recurrence rates compared to microsurgery, laparoscopy often results in shorter recovery times and reduced postoperative morbidity [5].

However, laparoscopic varicocelectomy provides a valid alternative in specific clinical contexts, such as bilateral disease, failed prior interventions, or when concurrent intra-abdominal procedures are indicated. In these settings, the laparoscopic approach allows for magnified views, artery-sparing dissection, and reduced morbidity through shared port access. Meta-analyses have shown that while recurrence rates may be marginally higher with laparoscopy, operative time and recovery are often superior compared to open approaches [8].

In the present case, performing laparoscopic varicocelectomy in conjunction with TAPP repair proved advantageous by avoiding additional incisions, limiting anesthesia exposure, and achieving both therapeutic goals in a single session. This aligns with prior studies that have advocated for simultaneous laparoscopic management of dual pathologies in selected patients [9].

Performing both TAPP hernia repair and varicocelectomy in a single laparoscopic session provided significant benefits for the patient. The shared port sites minimized surgical trauma and avoided the need for additional incisions, contributing to better cosmetic outcomes and less postoperative discomfort. Combining both procedures reduced overall anesthesia exposure and shortened the total recovery period, allowing the patient to return to normal activity more quickly. From a surgical perspective, the simultaneous approach was efficient, as the peritoneal dissection required for hernia repair also facilitated access for varicocelectomy. This highlights how careful planning can optimize patient outcomes in cases with dual pathologies.

Conclusion

Despite the high prevalence of both recurrent inguinal hernia and varicocele, reports of their simultaneous laparoscopic management remain scarce. Most of the existing literature describes staged procedures, whereas combined interventions are rarely documented. Our case contributes to the growing evidence that addressing both conditions laparoscopically in a single session is feasible and safe in appropriately selected patients. This strategy not only demonstrates technical feasibility but also underscores the value of minimally invasive surgery in reducing operative burden. To our knowledge, this is one of the few reported cases of simultaneous TAPP hernia repair and laparoscopic varicocelectomy in the context of recurrent hernia, adding a novel perspective to the literature.

References

1. Kingsnorth A, LeBlanc K. Hernias: inguinal and incisional. Lancet. 2003 Nov 8;362(9395):1561-71. doi: 10.1016/S0140-6736(03)14746-0. PMID: 14615114.
2. Simons MP, Aufenacker T, Bay-Nielsen M, Bouillot JL, Campanelli G, Conze J, de Lange D, et al. M. European Hernia Society guidelines on the treatment of inguinal hernia in adult patients. Hernia. 2009 Aug;13(4):343-403. doi: 10.1007/s10029-009-0529-7.
3. Bittner R, Arregui ME, Bisgaard T, Dudai M, Ferzli GS, Fitzgibbons RJ, et al. Guidelines for laparoscopic (TAPP) and endoscopic (TEP) treatment of inguinal hernia. Surg Endosc. 2014;28(2):353–79.
4. Gorelick JI, Goldstein M. Loss of fertility in men with varicocele. Fertil Steril. 1993;59(3):613–6.
5. Cayan S, Kadioglu TC, Tefekli A, Kadioglu A, Tellaloglu S. Comparison of results and complications of high ligation surgery, laparoscopic varicocelectomy, and microsurgical subinguinal varicocelectomy. Urology. 2009;73(4):767–71.
6. Chan P. Management options of varicoceles. Indian J Urol. 2011 Jan;27(1):65-73. doi: 10.4103/0970-1591.78431
7. Köckerling F, Krüger C, Gagarkin I, Kuthe A, Adolf D, Stechemesser B, et al. What is the outcome of re-recurrent vs recurrent inguinal hernia repairs? An analysis of 16,206 patients from the Herniamed Registry. Hernia. 2020 Aug;24(4):811-9. doi: 10.1007/s10029-020-02138-1
8. Warli SM, Nabil RA, Kadar DD, Prapiska FF, Siregar GP. Comparison between the efficacy and complication of laparoscopic and microsurgical varicocelectomy: Systematic review and meta-analysis. Urol Ann. 2024 Apr-Jun;16(2):113-9. doi: 10.4103/ua.ua_3_23
9. Belkovsky M, Sarmento EO, Novaes LFC, Passerotti CC, Pontes Junior J, Maximiano LF, et al. Bilateral inguinal transabdominal pre-peritoneal laparoscopic hernioplasty associated to bilateral laparoscopic varicocelectomy in the same intervention: a feasibility study. Rev Col Bras Cir. 2023 Mar 27;50:e20233468. doi: 10.1590/0100-6991e-20233468-en