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A rare case of thigh hematoma following retropubic transobturator tape procedure: A conservative management approach

Zeynep YAVAŞ YÜCEL[1], Tural ISMAYILOV[2]

[1]Department of Obstetrics and Gynecology, University of Health Sciences Türkiye, İstanbul Training and Research Hospital, İstanbul, Türkiye
[2]Clinic of Obstetrics and Gynecology, Avcılar Murat Kölük State Hospital, İstanbul, Türkiye

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ABSTRACT

Stress urinary incontinence (SUI) is a prevalent condition among postmenopausal women. Transobturator tape (TOT) has emerged as a standard surgical approach due to its favorable complication profile. However, rare complications such as vascular injury and thigh hematoma have been reported. We present a 49-year-old postmenopausal woman who developed a unilateral thigh hematoma following a retropubic TOT procedure performed for *de novo* SUI. The patient had undergone total laparoscopic hysterectomy and bilateral salpingectomy a year earlier. On postoperative day 1, she developed severe pain and swelling in the inner thigh. Magnetic resonance imaging revealed intramuscular hematoma involving the adductor, gemellus, and obturator muscles. Conservative management with elevation, topical heparinoid, and antibiotics led to complete resolution by week 7. Although rare, vascular injuries resulting in thigh hematoma can occur after TOT procedures. Prompt recognition, imaging, and conservative management can result in favorable outcomes. Surgical experience and anatomical familiarity are critical in minimizing such complications.

Keywords: Mesh; sling; vulvar pain

INTRODUCTION

Pelvic organ prolapse and stress urinary incontinence (SUI) are common health problems affecting women, particularly in the postmenopausal period. SUI is defined as involuntary leakage of urine during activities that increase intra-abdominal pressure, such as coughing or sneezing, without detrusor contraction.[1]

Over the years, various techniques have been developed to treat SUI, among which the mid-urethral sling (MUS) procedures have gained popularity. Since the early 2000s, transobturator tape (TOT) surgery has become the gold standard. Initially introduced by Delorme,[2] TOT was later modified to a retropubic approach in 2018.[3]

Address for Correspondence: Tural Ismayilov, Clinic of Obstetrics and Gynecology, Avcılar Murat Kölük State Hospital, İstanbul, Türkiye
E-mail: obgynist@gmail.com **ORCID ID:** orcid.org/0009-0003-2372-1230
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Compared to retropubic MUS procedures, TOT is associated with a lower incidence of complications.[4] However, despite its favorable profile, complications such as vaginal perforation, hemorrhage,[5] mesh erosion, abscess formation, dyspareunia, and chronic pain[6] can still occur. Commonly reported intraoperative complications include bladder injury. In addition, rare cases of intramuscular hematoma have been described when the obturator membrane is traversed and bleeding extends between the obturator muscles.[7,8]

This report presents a rare case of thigh hematoma following retropubic TOT surgery, aiming to contribute to the existing literature on its identification and conservative management. Written and verbal informed consent was obtained from the patient for the use of their medical information for scientific and academic purposes.

CASE REPORT

A 49-year-old postmenopausal woman (G2P2) presented with *de novo* SUI nine months after undergoing total laparoscopic hysterectomy and bilateral salpingectomy. Following a comprehensive urogynecological evaluation, a retropubic TOT procedure was performed.

There were no intraoperative complications. However, at postoperative hour 24, the patient reported sudden-onset, progressively worsening pain and swelling on the inner aspect of the left thigh. Physical examination revealed a 4×4 cm area of erythema with tenderness. Ultrasonography raised suspicion of a hematoma, prompting further evaluation with contrast-enhanced magnetic resonance imaging (MRI) (Figures 1, 2).

MRI findings showed Grade 1 muscle strain with intramuscular hematoma originating from the adductor, gemellus, and obturator muscles and extending posteriorly along the left thigh. Additionally, subcutaneous edema was observed (Figure 3).

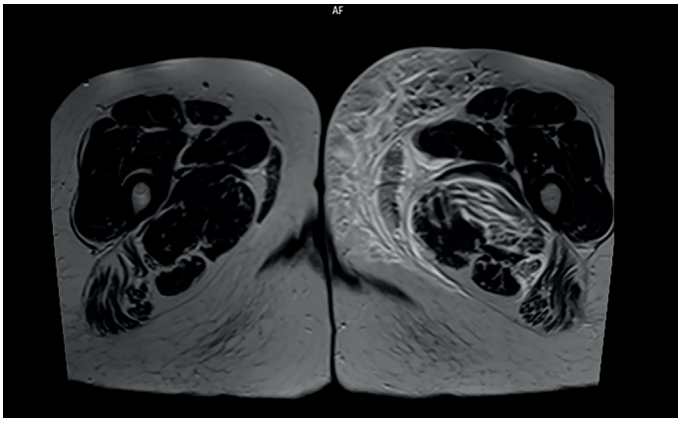

Figure 1. Magnetic resonance imaging of the left medial thigh revealing a well-defined hematoma

A multidisciplinary approach was adopted. Conservative management included leg elevation, topical heparinoid application, and intravenous ampicillin-sulbactam therapy. Interventional radiology was consulted for possible drainage; however, no invasive procedure was deemed necessary.

On postoperative day 13, due to elevated C-reactive protein levels and suspicion of secondary abscess formation, the antibiotic regimen was extended with oral therapy to complete a 21-day course. At the 7-week follow-up, the patient was asymptomatic, and complete resolution of the hematoma was confirmed on examination.

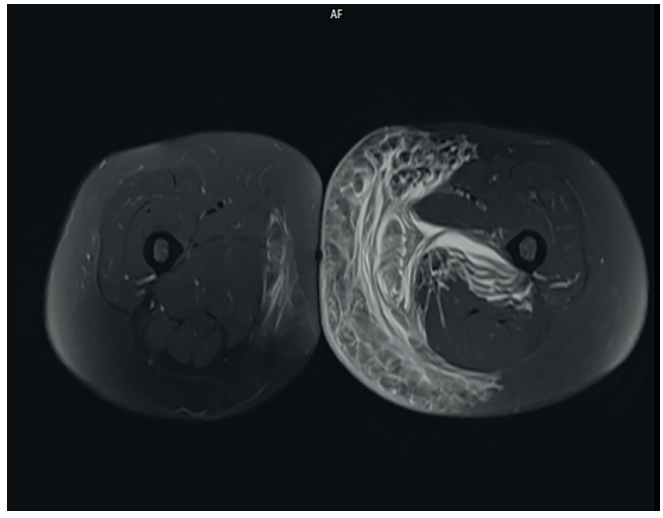

Figure 2. Radiological appearance of an organized hematoma on MRI
MRI: Magnetic resonance imaging

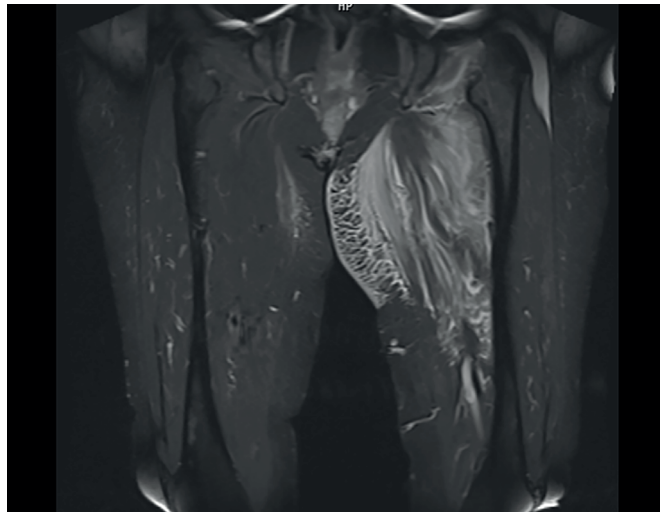

Figure 3. Coronal T2-weighted MRI of the pelvis and thighs showing a hyperintense, organized hematoma localized in the left medial thigh region
MRI: Magnetic resonance imaging

DISCUSSION

In TOT procedures, unlike retropubic MUS surgery, the needle passes through areas relatively distant from major vascular structures.[9] In their study, Delorme et al.[10] reported no vascular injuries related to TOT placement. In contrast, another study involving 94 patients undergoing retropubic MUS procedures reported a hematoma rate of 17%.[11]

Balachandran et al.[12] reported a hematoma incidence of only 0.33% among 2,091 MUS procedures, with average hematoma size ranging from 8 to 12 cm. Management strategies included laparotomy, vaginal, or suprapubic drainage depending on the clinical scenario.[12]

A review by Daneshgari et al.,[13] covering studies from 1995 to 2007, revealed complication rates of 10.5% to 31.5% in TOT procedures, with bladder perforation being the most frequent, and hematoma described as a rare complication. The hematoma rate was notably higher in the retropubic approach.[13]

Review of the literature shows that hematomas following TOT procedures are rarely encountered and are typically reported as isolated case reports.[14,15]

In our patient, there were no symptoms suggestive of vascular injury such as hypotension, tachycardia, or a drop in hemoglobin. The first clinical sign was acute, localized pain in the inner thigh on postoperative day one, which led to further investigation. The conservative management approach adopted in our case is consistent with strategies reported in similar case reports.[14,15]

CONCLUSION

Thigh hematoma is a rare but significant complication of TOT procedures. Awareness of anatomical landmarks, careful surgical technique, and prompt recognition of postoperative symptoms are essential for early diagnosis. Conservative management may be a safe and effective approach in the absence of hemodynamic instability or ongoing bleeding. Long-term follow-up is recommended to ensure complete resolution and to detect potential late complications. Proper documentation of such rare cases can contribute to better understanding and management strategies in urogynecological practice.

ETHICS

Informed Consent: Written and verbal informed consent was obtained from the patient for the use of their medical information for scientific and academic purposes.

FOOTNOTES

Contributions

Surgical and Medical Practices: T.I., Concept: Z.Y.Y., T.I., Design: Z.Y.Y., T.I., Data Collection or Processing: Z.Y.Y., Analysis or Interpretation: Z.Y.Y., T.I., Literature Search: Z.Y.Y., T.I., Writing: Z.Y.Y., T.I.

DISCLOSURES

Conflict of Interest: No conflict of interest was declared by the authors.

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