

Urethral erosion following autologous rectus fascial pubovaginal sling

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Urethral erosion following pubovaginal sling is a rare occurrence. When synthetic sling materials are used urethral erosion often necessitates removal of the sling and urethral reconstruction. The literature is sparse with respect to the best approach to fascial sling erosion. We report a case of a 73 year-old woman who underwent a pubovaginal sling using autologous rectus fascia for treatment of stress urinary incontinence (SUI). She developed urethral erosion following 2 weeks of clean

intermittent catheterization (CIC). Visual internal urethrotomy (VIU) was performed to incise the sling and the prolene sutures were removed to eliminate any tension. The patient subsequently voided spontaneously and had resolution of her SUI. This case demonstrates that urethral erosion may occur even when fascial slings are used. Unlike synthetic slings, when autologous fascia is used, the tissue may be left in-situ. A minimally invasive approach may achieve an excellent result without the need for complex surgical repair.

Key Words: intrinsic sphincter deficiency, stress incontinence, pubovaginal sling, urethral erosion, fascial slings

Introduction

Urethral erosion following pubovaginal sling may occur when synthetic materials are used for the sling construction. This complication has rarely been reported with fascial slings. Repair of urethral erosion with synthetic material involves removal of the sling and urethral reconstruction. The literature is sparse with respect to the best approach to fascial sling erosion. We present the case of a 73 year-old woman who underwent a pubovaginal sling using autologous rectus fascia for management of severe stress urinary incontinence. She had not had any previous pelvic surgery or radiation. She had been on hormone replacement therapy since menopause. She had required drainage of a post-partum vaginal hematoma 40 years previously. Videourodynamics demonstrated evidence of intrinsic

sphincter deficiency incontinence with a valsalva leak point pressure of 40 cm H₂O, absence of hypermobility and a stable bladder. The procedure was uneventful and she was discharged home the same day with a #14 F indwelling catheter. Intra-operative cystourethroscopy was normal. She failed her initial trial of voiding and was managed with CIC for persistent urinary retention. After 2 weeks of CIC she began to experience difficulty, complaining of increased perineal discomfort and bladder spasms. Flexible cystoscopy revealed erosion of the rectus fascial sling through the floor of the mid-urethra. She continued CIC and arrangements were made for operative repair.

Materials and methods

The initial plan was to perform transvaginal sling removal and urethral repair. Video- cystoscopy under anesthesia revealed the glistening white tissue of the sling to be readily apparent in the mid-urethra. The 17 Fr cystoscope sheath easily bypassed the sling and cystoscopy demonstrated a normal bladder, bladder neck, and trigone. We hypothesized that incising the

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sling might allow the fascia to retract laterally, since the urethral mucosa seemed to be mobile around the sling, with visual evidence of the sling "sliding" under the mucosa. A visual internal urethrotome was used to transect the sling in the midline at the six o'clock position. This resulted in immediate lateral retraction of the cut edges of the fascia and opened the urethra completely. No urethral injury or defect could be identified and we wondered if the procedure would be sufficient to allow spontaneous voiding. In order to ensure no tension remained a small opening was made in the previous abdominal incision and the prolene sutures were removed.

Results

A Foley catheter was left in situ for 10 days. Upon removal of the catheter the patient voided spontaneously and was dry without any residual SUI. She had minimal urgency and lower urinary tract symptoms (LUTS) for the initial few weeks but this abated with time. She is now 8 months post surgery and remains dry yet able to completely empty her bladder. Her LUTS have resolved and she is very pleased with the results. She did not develop any signs or symptoms suggestive of vesicovaginal fistula.

Discussion

The pubovaginal sling remains the gold standard for the surgical treatment of SUI.¹ Excellent long-term results have been achieved with this procedure even after multiple other interventions have failed.^{2,3} Unfortunately, a significant number of complications can occur. One of the more troubling, although rare complications has been erosion of the sling through the urethra. This has mainly been reported when synthetic materials are used for the sling construction.² Only a few reports exist in the literature of autologous fascial sling erosion. Golomb et al noted a case 4 years post procedure, which was attributed to an episode of traumatic catheter insertion.² In this case, the sling was divided trans-vaginally laterally, leaving the midline portion of the sling in situ. Amundsen et al report two patients who experienced urethral erosion following allograft fascial sling.⁴ These women underwent midline transvaginal sling incision and dissection of the periurethral tissue with urethral closure. Handa and Stone reported the first case of urethral erosion with a fascial sling in 1999. They had used autologous rectus fascia with the Vesica® (Microvasive) drill and bone anchors. Release and excision of only the right side of the sling with transvaginal labial fat pad interposition

achieved a good result.⁵ The surgical experience in correcting fascial sling erosion is very limited. Each reported case appears to have been uniquely managed. Unlike with synthetic graft material, total sling excision may not be necessary.

Our patient had clear erosion of the fascial sling through the floor of the mid-urethra. Perhaps this was due to excessive tension on the sling or more likely traumatic catheterization. No specific pre-operative risk factors could be identified. By incising the fascial sling in the midline with a urethrotome, the fascia retracted laterally. A vaginal incision and repair was not required. Each half of the sling was left just lateral to the urethra. No urethral defect could be identified. The prolene sutures were removed to ensure that no tension remained although this was likely unnecessary. Nonetheless, we wanted to eradicate all sources of potential sling tension or urethral distraction to avoid development of a urethro-vaginal fistula. By leaving the fascia in situ we postulate that the healed tissue provided anatomic support for the urethra and served to prevent recurrent incontinence. Since no dissection was done in the peri-urethral or anterior vaginal tissue and the sling material was autologous, there was little chance of fistulization. Obviously, longer follow-up is needed but the results at 8 months are very encouraging.

Conclusion

Autologous fascial sling erosion remains an extremely rare but potential occurrence following pubovaginal sling. Information on the operative repair of these erosions is sparse. This case adds to the literature and supports others who have found that the entire sling may not need to be removed and major surgical endeavors may be avoided. Our approach appears to be one of the least invasive reported in the literature. □

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