

URETHRAL COMPLICATIONS AFTER TENSION-FREE VAGINAL TAPE PROCEDURES: CLINICAL SYMPTOMS, DIAGNOSIS, SURGICAL MANAGEMENT AND OUTCOME IN A SERIES OF NINE REPORTED CASES

Hypothesis / aims of study

Urethral complications are uncommon adverse events after a tension-free vaginal tape procedure. We present our experience with a series of nine cases of urethral erosion. The aim is to analyze and identify the clinical features, diagnostic modalities and the surgical management and functional outcome of these rare complications.

Study design, materials and methods

A retrospective review of nine patients who presented with urethral complications after mid-urethral sling procedures. The patients had been primarily operated from 1999 to 2012 in three different hospitals. The interval from sling placement to diagnosis, risk factors, clinical features, diagnosis, surgical management and functional outcome are presented. The presenting symptoms were divided to early-onset (< 12 months postoperatively) and late-onset (> 12 months postoperatively) according to when they were first reported.

Results

Eight cases of urethral erosion and one case of bladder neck erosion have been detected. The mean interval for diagnosis of the erosion ranged from 3 months to 11 years. Most common presenting symptoms included de novo urgency with or without incontinence (seven patients), urinary retention/voiding dysfunction (four patients), urethritis (four patients), relapse of stress-incontinence (three patients), recurrent urinary tract infections (Five patents) and hematuria (one patient). Voiding dysfunction and urethritis tends to be more likely to occur early after the operation. The surgical management that was applied in most cases was transurethral resection of the intra-urethral part of the mesh. The procedure will be described in detail.

Under general, or spinal, anesthesia and the patient in lithotomy position, the intraurethral mesh is identified through a regular cystoscope a 0-0 monofilament thread is introduced through a loop, in the central part, of the mesh. A good portion of the thread is pushed through the mesh into the bladder, the cystoscope is retracted, the threads position in the urethra is secured by grasping it at the meatus. The cystoscope, which is reintroduced into the bladder and the distal part of the thread is located and grasped, with a cystoscopic pincers, and extracted through the urethra. We will know have a thread loop through the mesh and will be able to apply tension on the mesh when cutting the mesh.

It is recommended to use a monofilament thread that has a different color than the mesh, which in most cases is blue to avoid cutting the loop by mistake. It can be technically challenging to insert the monofilament thread into one of the loops of the TVT mesh. The procedure can be made easier by means of a child cystoscope (Ch10, one port channel and with an optic of 0 degrees). The small cystoscope is more easily handled in the urethra.

Then, carefully, dilate the urethra to Hegar pin nr 10. In our hands a nephroscope (Storz S27092 AMA, 0 degrees optic and a operating sheeth 27093BN Ch28 with a working channel of 5 mm) has been the most convenient instrument to use when cutting the mesh. We have tried regular cystoscope, but the small scissors that can be used through a cystoscope are too weak to cut the mesh and will easily break. With a videotechnique it is possible for the assistant to manipulate the urethra with one finger in the vagina. Through the working channel of the nephroscope a laparoscopic scissors (Storz, Metzenbaum scissor 5 mm 34210 MW or Hak scissor 34210 EH) is used to cut the mesh. It is easy to cut the mesh at the first side and with the monofilament suture it is possible to keep the mesh tensioned while cutting the other side. Cut the mesh in the mucosa level. No suturing is needed. Cut as much as possible of the visible mesh. If some small part remains, it will disappear.

Five were still continent after the intraurethral part of the sling was removed, one patients were operated with laparoscopic Burch and three with an new retropubic TVT procedure.

Interpretation of results

The diagnosis of urethral complications might be difficult because of the variation in the timing and the presenting symptoms. A suspicion for urethral complications is important in the postoperative follow-up, if certain symptoms, like urgency, voiding difficulties, relapse of stress urinary incontinence (SUI) or recurrent urinary tract infections (UTI), occurs.

Concluding message

Conclusions: The urethral complications after sling procedures might be more common than it is described in the literature, since the urethrocystoscopy is not included routinely in the postoperative follow-up of patients with residual or new symptoms from the urinary or vaginal tract.

We recommend the transurethral excision of the intraurethral mesh as the most reasonable choice of treatment.

References

1. Powers K, Lazarou G. Delayed urethral erosion after tension-free vaginal tape. *Int Urogynecol J Pelvic Floor Dysfunct* 2006 Jun;17(4):422-5

Disclosures

Funding: The study has been financed with grants from FoU found in Skaraborgs Hospital Skövde. **Clinical Trial:** Yes **Public Registry:** No **RCT:** No **Subjects:** HUMAN **Ethics not Req'd:** This retrospective study of complications is not needed to have

been approved by the regional ethical committee in Gothenburg as it falls in the area of case reports but all patients have given verbal consent to publications of this complications. **Helsinki:** Yes **Informed Consent:** Yes