

THE OPTIMAL MOMENT TO PERFORM URETHROLYSIS IN OBSTRUCTIVE MIDURETHRAL SLINGS: A SINGLE TERTIARY CENTER COHORT OF 87 PATIENTS.

Hypothesis / aims of study

Stress urinary incontinence (SUI) is a common health care problem among women. Midurethral sling surgery is considered the gold standard treatment with low complication rates. Postoperative voiding dysfunction is a potential complication of these procedures, with rates ranging from 5% to 20%. We treat this complication by transecting or partially removing the sling. However, we still don't know much about the effects of urethrolysis on voiding function nor do we know whether there is an ideal moment to perform it.

We hypothesised that waiting longer before performing urethrolysis results in persistent overactive bladder (OAB) symptoms. On the other hand, early urethrolysis may result in recurrent SUI. Our aim was to investigate voiding (dys)function before and after urethrolysis and correlate it to the timing of urethrolysis.

Study design, materials and methods

This is a retrospective single tertiary center study including all patients who underwent urethrolysis after obstructive midurethral sling placement between 1997 and 2012. Urethrolysis meaning that the sling was partially removed and the urethra freed from sling obstruction. Obstruction was defined as urinary retention, straining to void with clinically overcorrected sling or urodynamic bladder outlet obstruction. In a chart review of electronic files, we assessed preoperative and postoperative symptoms at two consecutive follow-up visits. We assessed the most opportune moment to perform urethrolysis in relation to recurrent SUI and persistent or de novo OAB symptoms using ROC (receiver operating characteristic) analysis. Statistical analysis was performed using MedCalc statistical software.

Results

87 patients underwent urethrolysis after obstructive midurethral sling surgery. At average first and second follow-up of 1,7 (0,5 – 7) and 7,8 (1 – 36) months, data of respectively 83 and 69 patients were obtained.

Patients' symptoms before and after urethrolysis were analysed and showed complaints of obstructive micturition in 89.7% (n=78/87) and OAB symptoms in 62.8% (n=54/86) before urethrolysis. At first and second follow-up, 28.1% (n=23/82) and 26.5% (n=18/68) of patients complained of SUI respectively; OAB symptoms were present in 47% (n=39/83) and 50.7% (n=35/69) at first and second follow-up.

At first follow-up we found no 'ideal moment' to perform urethrolysis with a statistically significant difference in outcome.

At second follow-up, we found that in patients with pre-existing OAB symptoms, complaints of OAB persisted in 65.9% (n=27/41). Patients without pre-existing OAB symptoms had complaints of OAB in 28.6% (n=8/28). Subgroup ROC analysis showed that performing urethrolysis within 70 days after obstructive sling placement resulted in a statistically significant decrease in postoperative OAB symptoms ($p = 0.0494$, 0% (n=0/7) vs 39% (n=7/18)). With respect to stress incontinence, a statistically significant benefit of surgery after 180 days after obstructive sling placement was found ($p=0.0243$) with 41.9% (n=13/31) and 13.5% (n=5/37) of patients being stress incontinent after urethrolysis respectively before and after 180 days).

Patients with persistent and de novo OAB symptoms at second follow-up needed anticholinergic treatment in 65.7% (n=23/35) and patients with recurrent SUI needed redo surgery in 44.4% (n=8/18) at this stage of follow-up.

Interpretation of results

Independently of when it's performed, urethrolysis remains a good treatment option with relief of obstructive voiding and OAB symptoms after obstructive sling placement and still with less SUI than before obstructive sling placement.

Our results however confirm our hypothesis that there's a 'window of opportunity' to perform urethrolysis in patients with obstructive midurethral slings. Concerning their two major presenting symptoms (OAB symptoms and SUI) we found that early urethrolysis (within 70 days after sling placement) prevents persistent OAB symptoms. This could be explained by avoiding long term bladder outlet obstruction with consequent bladder changes. To prevent recurrence of SUI however, late urethrolysis (more than 180 days after sling placement) is preferred. This is probably due to postoperative fibrosis. It is very important to keep these statistics in mind, since people with persistent OAB symptoms or SUI frequently need additional anticholinergic treatment and redo surgery respectively.

Concluding message

Urethrolysis is a viable treatment option for obstructive midurethral slings. The decision whether and when to perform urethrolysis should be individualized, depending on the patients' symptom profile and preferences. Patients who are confronted with this choice should be informed about the 'window of opportunity' to perform urethrolysis; the presence of OAB herein seems a decisive factor. This is an important topic, since morbidity caused by persisting/recurrent micturition symptoms is high with the need for additional medical and/or surgical treatment.

Disclosures

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