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TRANS-VAGINAL URETHROLYSIS FOR THE TREATMENT OF IATROGENIC FEMALE URETHRAL OBSTRUCTION: SURGERY OUTCOME AND RISK FACTORS

Hypothesis / aims of study

Iatrogenic urethral obstruction is a potential complication of anti-incontinence surgery. Symptoms can be either urinary retention (partial or complete), or less specific voiding or storage symptoms.The incidence of iatrogenic urethral obstruction is poorly defined and probably underestimated. Permanent voiding dysfunction has an incidence of 5%(1) and, in particular, urinary retention has been reported with an incidence of 3-7% after retropubic colposuspension, 4-8% with needle-suspension procedures and 6-11% with sling procedures, and urinary retention following TVT occurs in 1.4-9.0% of cases(2,3)

The primary objective of this study was to evaluate the effect of trans-vaginal urethrolysis on storage and voiding symptoms and its impact on quality of life (QoL). As a secondary outcome, we evaluated possible predictive factors for treatment failure.

Study design, materials and methods

This is prospective study. All women with storage symptoms or voiding symptoms (incomplete emptying with postvoid residual of more than 200ml thus requiring intermittent catheterisation) or both, after anti-incontinence surgery, were included. In all patients urodynamics showed a pdetQmax > 25 cmH2O and a Qmax < 10 ml/sec (Defreitas) were included. They underwent trans vaginal urethrolysis (Nitti and Raz's technique). Exclusion criteria were: the presence of POP, the recurrence of SUI. Preoperative evaluation included: history, structured questionnaire for storage and voiding symptoms,3-day voiding diary, pelvic examination, evaluation of degree of urinary incontinence according to Ingelmann-Sundberg classification, cystourethroscopy, urodynamic studies. After urethrolysis they completed a 3-day voiding diary, a conventional urodynamic study and the following validated self-administered questionnaires for the assessment of QoL:SF-36,PGI-S scale, OAB-q. We defined the resolution of storage symptoms as the absence of urgency and urge incontinence with a daytime frequency less than 8 times a day. Criteria to define improvement were a reduction in frequency of at least 30% and also a reduction in urgency and urge incontinence of at least 50%.Resolution of voiding symptoms was defined as absence of voiding symptoms, or postvoid residual of less than 50cc thus allowing interruption of clean intermittent catheterization (CIC). We defined improvement as a decrease in postvoid residual of at least 50%.Statistical analysis was carried out using McNemar's Chi-square test for categoric variables, the paired t-test for parametric variables and the Mann-Whitney test for non-parametric variables. We considered $p<0.05$ to be statistically significant.

Results

Between 2011 and 2015 we enrolled 30 women who came to our clinic for iatrogenic outlet obstruction. All were aged 46-76 yrs (mean 59.7 yrs±8.7), median parity was 2 (range 0-4), 27 patients (90%) were post-menopausal. Pre-operative data are summarized in Table 1. Trans vaginal urethrolysis was performed mean 19.4 months after the anti incontinence surgery. In eight cases, a suprameatal urethrolysis was associated. In cases of previously failed urethrolysis, a Martius flap was performed, in order to improve tissue repair and prevent new adhesions from forming. Only four patients had recurrent stress urinary incontinence in addition to outlet obstruction; these were given an anti-incontinence procedure in association to urethrolysis. Mean follow-up was 13.2 ±14.2 months. Following urethrolysis, we observed complete resolution of voiding symptoms in 16/27 patients (59.3%) and significant improvement in 7 other patients (25.9%). As regards storage symptoms, post-operative resolution was observed in only 4 patients (16.6%), and clinical improvement in 3 patients (12.5%). These patients ha an improvement of QoL. To investigate why storage symptoms persisted in some cases and not in others, and if any predictive factors exist, we divided the patients into those whose symptoms persisted (group 1) and those whose symptoms resolved (group 2). Table 2 showed no differences in pre-operative voiding symptoms, significant post-void residue, anticholinergic treatment, or need for CIC. Table 3 showed no significant difference between the groups in any preoperative urodynamic parameters, except for detrusor overactivity ($p=0.002$). Group 1 had a time-lag between SUI surgery and urethrolysis of 12-38 months, compared to 6-11 months for group 2 ($p=0.01$).

Table 1- Pre-operative characteristics of patients (A and B)

A

Pre-operative symptoms	N (%)
Storage symptoms	6 (20)
Voiding symptoms	3 (10)
Voiding + storage symptoms	21 (70)

B

Cause of obstruction	N(%)
Colposuspension	18(60)
Sling	12(40)

Table 2- Pre-operative symptoms in the two groups.

Dysfunction	**N total**	**Group 1**	**Group 2**	**P**
Voiding symptoms	24	14	10	0.07
Post Void Residual > 100	9	5	4	0.67
Need for catheterization	7	4	3	0.89
Storage symptoms	27	15	12	0.07
Anticholinergics therapy	23	13	10	0.56

Table 3- Pre-operative urodynamic data in the two groups.

	N total	**Group 1**	**Group 2**	**P**
Patients	30	20	7	
Cystometric capacity	96-507 ml (mean 322.1 ml SD 103.4)	96-390 (mean 318.5 ml SD 99.7)	134-507 (mean 325.1 SD 103.8)	0.06
First desire to void	21-270 ml (mean 156.4 ml SD 78.4)	50-190 ml (mean 148.9 ml SD 80.1)	21-270 ml (mean 153.4 ml SD 78.1)	0.61
PdetQmax	25-100 cmH2O (mean 45.7 cmH_2O SD 23.5)	37-100 cmH_2O (mean 44.5 cmH_2O SD 22.9)	25-69 cmH_2O (mean 42.6 cmH_2O SD 20.9	0.13
Qmax	2-38 ml/sec (mean 9.8 ml/sec SD 9.2)	3-38 ml/sec (mean 10.2 SD 8.9	2-32 ml/sec (mean 9.7 SD 9.1)	0.48
Detrusor overactivity	15 patients (50%)	11 patients (55%)	4 patients (20%)	0.02

Interpretation of results

This study showed a significant improvement in voiding symptoms, but not in storage symptoms. The literature presents conflicting data on this point.In our sample women with persistent storage symptoms had a time –lag between anti incontinence surgery and urethrolysis.It could explain its. Infact a prolonged obstruction could determine urotelium morphological alterations, which determine clinically storage symptoms.

Concluding message

This study confirms that trans-vaginal urethrolysis is an effective treatment for voiding symptoms caused by anti-incontinence surgery but gives poor results in correction of storage symptoms.

References

1. Leach GE, Dmochowski RR, Appell RA, at al. Female stress urinary incontinence clinical guidelines panel summary report on surgical management of female stress urinary incontinence. The American Urological Association. J Urol 1997;158:875-80.
2. Kuuva N, Nilsson CG. A nationwide analysis of complications associated with the tension-free vaginal tape (TVT) procedure. Acta Obstet Gynecol Scand 2002;81:72-77.
3. Niemczyyk P, Klutke JJ, Carlin BI, Klutke CG. United States experience with tension-free vaginal tape procedure for urinary stress incontinence: assessment of safety and tolerability. Tech Urol 2001;7:261-5.

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