

URODYNAMICALLY DIAGNOSED DETRUSOR HYPOCONTRACTILITY: SHOULD SUB-URETHRAL SLING BE CONTRAINDICATED ON FEMALE STRESS URINARY INCONTINENCE?

Hypothesis / aims of study

The sub-urethral slings are rapidly becoming one of the most commonly performed operations for female stress urinary incontinence (SUI) worldwide. High success rates reported in long-term studies has popularized these procedures more and more. It is generally accepted that these procedures have an obstructive effect on the urethra which may affect voiding. Low detrusor contractility (LDC) is thought to be one of the risk factors predicting the postoperative difficult voiding. Commonly, patients with this condition will be excluded from the candidate group. However, the literature on this issue has been limited to case reports and small series. One recent review demonstrated that most of the risk factors stated were anecdotal, speculative and experience-based rather than evidence-based (1). The purpose of this study was to test the hypothesis that patients with LDC are still potential suitable candidates for sub-urethral sling procedures.

Study design, materials and methods

Retrospective study of a total of 49 women with SUI treated by placement of the sub-urethral sling (TVT, TVTO or SPARC) between August, 2006 and November, 2007 in our tertiary hospital. The patients had an average age of 56 (range 35-82). The parameters reviewed from the patients' files included: age, cough stress test, 1-hour Pad test, Qmax, PVR, filling cystometry and pressure-flow study. Subjective results were assessed by using ICIQ-SF test before and after surgery. A descriptive analysis has been performed; as well a comparative study using χ^2 Test and Fisher's Exact Test. SPSS software (V15.0) was used. Results were considered relevant for a $p < 0.05$.

Results

All patients were followed up to 3 years. Of 49, 27 patients presented normal detrusor contractility (NDC) and 22 with LDC on urodynamic tracings. Success definition for SUI was defined as ① a negative standing stress test with a comfortably full bladder documented at their last visit, and ② an answer of "not at all" or "slightly" to UDI question 3: "Do you experience, and if so, how much are you bothered by urine leakage related to activity, coughing, or sneezing?" The success rates in NDC group and LDC group were 92.6% (25/27) and 90.9% (20/22), respectively, without clinical difference. Significant reductions in Qmax 3 years after operations: changing from (22.51±11.09) ml/s to (17.93±8.84) ml/s in NDC group and from (15.01±5.11) ml/s to (11.48±5.54) ml/s in LDC group, respectively, with a combined total decrease of 3.5ml/s. Postvoid residuals were not clinically different, changing from (10.24±16.76) ml to (15.29±15.51) ml in NDC group and from (22.65±21.50) ml to (32.35±28.73) ml in LDC group, respectively. Significant decrease in ICIQ-SF scores post-operatively, changing from 15.09 to 2.22 in NDC group, and from 16.77 to 3.09 in LDC group, respectively ($p < 0.001$), with a combined total decrease of 13 points. Difficult voiding here was defined as PVR greater than 100ml and use of abdominal pressure to void. The incidence of difficult voiding was a little higher in LDC group (13.6%, 3/22) comparing to 7.4% (2/27) in NDC group; however, no one in both group suffered from urinary retention.

Interpretation of results

Our results showed no significant difference in patients undergoing sub-urethral slings with either normal or low detrusor contractility based on the success definition for SUI. According to the literature, urinary retention and minor difficult voiding after TVT occurred in 2.3% and 7.6%, respectively (2). In our study, although postoperative difficult voiding was more common in LDC group, the results seemed to be within the range of acceptable comparing with the current publications.

Concluding message

The sub-urethral sling procedures may prove to be favorable options to female SUI patients with low detrusor contractility, with similar success rates to those with normal one, without significant complications. Further informed consent should be made concerning the risk of postoperative difficult voiding, although it is comparable to other publications. Patients with low detrusor contractility should not be arbitrarily excluded from sub-urethral sling procedures simply based on urodynamic findings.

References

1. Cetinel B, Demirkesen O. Risk factors influencing the complication rates of tension-free vaginal tape-type procedures. *Curr Opin Obstet Gynecol*. 2005 Oct; 17(5):530-4.
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.

Disclosures

Funding: no **Clinical Trial:** No **Subjects:** HUMAN **Ethics not Req'd:** It was a retrospective study using patients files. All patients signed informed consents. **Helsinki:** Yes **Informed Consent:** Yes