

EFFECTS OF DETRUSOR FUNCTION ON THE THERAPEUTIC OUTCOME OF PUBOVAGINAL SLING PROCEDURE FOR STRESS URINARY INCONTINENCE IN WOMEN

Hypothesis / aims of study

Suburethral sling procedure using polypropylene mesh or tension free vaginal tape has become the most popular treatments for stress urinary incontinence (SUI) in women. The success rates were around 85 to 90% in the long-term follow-up. In the patients with mixed urinary incontinence, urge incontinence may persist in about 25% of patients after suburethral sling procedure. Patients with detrusor underactivity void with the aid of abdominal straining and a low urethral resistance is often necessary for spontaneous voiding. Using pubovaginal sling procedure in treatment of SUI in women with detrusor underactivity might be at risk of urinary retention. This study was conducted to assess the effects of detrusor function on therapeutic outcome of pubovaginal sling procedure for SUI in women.

Study design, materials and methods

A total of 200 women with SUI undergoing pubovaginal sling procedure were enrolled. Patients were grouped according to the baseline urodynamic results as detrusor overactivity, detrusor underactivity and normal detrusor function. Classification of detrusor function was based on the ICS recommendations. Urodynamic parameters including cystometric capacity, detrusor pressure at maximum flow rate, maximum flow rate, and postvoid residual were compared at baseline, 2 weeks, and 3-6 months after surgery. The therapeutic results and patients' satisfaction were asked to report at each follow-up visit. Patients were questioned for the symptoms of SUI or urgency incontinence, urgency frequency or difficult urination. The overall satisfaction to treatment was classified as excellent (continent and without new developed lower urinary tract symptom), satisfactory with minimal SUI, satisfactory with mild urgency incontinence, improved in SUI but with bothersome lower urinary tract symptoms, or treatment failure. The grade of SUI was classified according to the SEAPI-QMM system. Patients with excellent or satisfactory results were considered to be successfully treated. The surgical results, urodynamic parameters and patients satisfaction were compared among the three groups.

Results

Urodynamic parameters at baseline and after treatment were available in 192 women. The mean age was 64 (33- 97) years old and mean follow-up period was 36 (6- 84) months. According to the baseline urodynamic results, 36 women were classified as having detrusor overactivity, 50 had detrusor underactivity, and 106 had normal detrusor function. A continent outcome was achieved in 135 women (70.3%), urge incontinence in 23 (12%), minimal SUI in 32 (16.7%), moderate SUI in 2 (1%). Postoperative dysuria was noted in 27 patients (14.1%), 7 of them received transvaginal urethrolisis. Persistent urge incontinence was noted in 13 (36%) women with detrusor overactivity, recurrent SUI occurred in 18 (36%) women with detrusor underactivity. No significant change in urodynamic parameters between baseline and after treatment in any group of patients. The satisfactory rate was 96.5% in patients with normal detrusor function, 82% in patients with detrusor underactivity, and 81.1% in patients with detrusor overactivity ($p < 0.05$).

Interpretation of results

This study demonstrated that patients with abnormal detrusor function at baseline had significant effects on the therapeutic outcome of pubovaginal sling procedure for SUI after a mean follow-up of 3 years. Patients with detrusor overactivity mixed with SUI had significantly higher rate of postoperative urgency incontinence. Patients with detrusor underactivity had higher rate of recurrent SUI and dysuria after surgery. However, patients with chronic urinary retention after surgery requiring transvaginal urethrolisis were equally distributed in patient groups of detrusor underactivity and normal detrusor function.

Concluding message

Preoperative detrusor overactivity and detrusor underactivity had unfavorable effects on therapeutic outcome in terms of urgency incontinence and recurrent SUI after surgery.