788

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INFLUENCES OF PREOPERATIVE URODYNAMIC AND PHYSICAL EXAMINATION PARAMETERS ON POSTOPERATIVE VOIDING DIFFICULTIES IN PATIENTS WITH STRESS URINARY INCONTINENCE

Hypothesis / aims of study
We evaluated the influence of preoperative urodynamic (UDS) and physical examination (PE) findings on objective postoperative bladder emptying, the subjective development of voiding symptoms, and patient reported success for correction of stress urinary incontinence (SUI).

Study design, materials and methods
From January to December 2007, 147 female patients with SUI underwent transobturator mid-urethral sling surgery (TOT). The patients were selected for SUI, with no overactive bladder (OAB) symptoms, no detrusor overactivity (DO) on UDS, no prolapse, and no history of prior incontinence surgery. Of these patients, 113 patients (aged 38-74, mean 51.1) with follow-up of at least 12 months were included in analysis. All patients had PE and UDS findings including Q-tip testing, free maximal flow rates (Qmax), filling cystometry (CMG), valsalva leak point pressure (VLPP), detrusor pressure at maximal flow (PdetQmax) and maximal urethral closing pressure (MUCP).The primary outcome was postoperative voiding dysfunction, defined as subjective feeling not empty bladder completely and postvoid residual (PVR) $\geq$ 100ml. A secondary outcome, 'cure' of SUI was defined as "the negative cough stress test and no subjective complain of urine leakage". To assess the voiding functions, the patients were asked if voiding had changed after surgery and objectively had uroflowmetry and PVR measurement at one week, 1,3,12 months postoperatively. We analyzed the preoperative parameters using univariate and multivariate regression for voiding difficulties and cure rates.

Results
At the 12 months follow-up, 87.6% patients were cured and 15.9% patients had voiding dysfunctions. Voiding dysfunctions changed from 28.3% at 1 week to 24.8% at 1month and 18.6% at 3 months. Patients with a preoperative Qmax < 20ml/s (12.4%) had a tendency for postoperative voiding dysfunction at 1 year (OR 5.44, 95% CI 1.61 to 18.39, P=0.003). Qmax changed from 26.9±5.7 to 16.1±5.4 at 1 week, 20.8±7.2 at 1month, 21.5±5.67at 3months and 24.7±5.8 at 12months postoperatively. No other preoperative parameters had statistically significant influences on postoperative voiding dysfunction. There was no permanent urinary retention and 9 patients had urinary difficulty requiring intermittent catheterization for less than 3 days. On multivariate analysis, there were no independent risk factors related to postoperative voiding dysfunction. None of the preoperative PE or UDS parameters were predictors of postoperative cure rates.

Interpretation of results
The probability for postoperative voiding difficulties with a preoperative Qmax < 20ml/s was higher than in the group with Qmax $\geq$ 20ml/s but was not significant of for other parameters. Additionally, the surgical success for "cure" of SUI was not predicted by preoperative Q-tip testing, Qmax, PVR, VLPP, PdetQmax and MUCP.

Concluding message
Patients with low flow rate have higher probability of postoperative voiding difficulties. The other preoperative parameters didn't predict postoperative voiding dysfunction. There is no preoperative PE or UDS parameters influenced the postoperative results for success.

Specify source of funding or grant	**None**
Is this a clinical trial?	**Yes**
Is this study registered in a public clinical trials registry?	**No**
What were the subjects in the study?	**HUMAN**
Was this study approved by an ethics committee?	**No**
This study did not require eithics committee approval because	**retrospective study but followed the Declaration of Helsinki Informed consent was obtained from the patients.**
Was the Declaration of Helsinki followed?	**Yes**
Was informed consent obtained from the patients?	**Yes**