

## THE SIGNIFICANCE OF URODYNAMIC STUDY ON THE PATIENTS WITH PELVIC ORGAN PROLAPSE PREOPERATION

### Hypothesis / aims of study

Patients with pelvic organ prolapse frequently companied with bladder and urethra dysfunction. The aim of this study was prepared to investigate the value of the urodynamic study on the patients with pelvic organ prolapse preoperatively.

### Study design, materials and methods

63 patients with pelvic organ prolapse from January 2009 to march 2012 in our hospital were recruited for this study. All patients were received urodynamic examination during one week before the operation.

### Results

42 patients (66.7%) were found with stress urinary incontinent, including 15 cases (23.8%) with occult stress urinary incontinent. The maximum urethral closing pressure ( $57 \pm 15$  cmH<sub>2</sub>O) and the functional urethral length ( $16 \pm 3$  mm) in the incontinence group were lower significantly, compared with the corresponding value[ ( $80 \pm 22$  cmH<sub>2</sub>O) and ( $22 \pm 9$  mm) , respectively ] in the non-incontinence group ( $P < 0.05$ ). In the group with anterior vaginal prolapse in POP-Q stage III-IV, the age of patients[ ( $62 \pm 9$ ) VS ( $48 \pm 10$ ) years] was higher significantly( $P < 0.05$ ), whereas the maximum volume, the maximum flow rate and the pressure at the maximum flow rate was lower obviously( $P < 0.05$ ) than the corresponding value in the group with anterior vaginal prolapse in POP-Q stage I- II. And moreover, the incidence of the occult stress urinary incontinence, bladder detrusor dysfunction and detrusor overactivity in the group with severe anterior vaginal prolapse increased significantly, compared with what was detected in the group with slight anterior vaginal prolapse ( $P < 0.05$ ) .

### Interpretation of results

Our study suggested that there might be many types of urodynamic abnormality coexisting in the patients with pelvic organ prolapse. Genuine and occult stress urinary incontinence were the two major abnormality. Occult stress incontinence might often be found in the patients with severe anterior vaginal prolapse than with slight anterior vaginal prolapse when the prolapse was reduced in the examination. And moreover, the patients with severe anterior vaginal prolapse usually companied with more complex dysfunction of bladder and urethra.

### Concluding message

It was important to perform urodynamic study on the patients with pelvic organ prolapse preoperatively, and it could provide some useful reference for the surgical treatment.

Table 1. The difference of the urodynamic data between severe and slight anterior vaginal prolapse

	first sensation (ml)	maximum volume (ml)	compliance (cmH <sub>2</sub> O/ml)	( maximum flow rate (ml/s)	pressure at maximum flow rate (cmH <sub>2</sub> O)	maximum urethral closing pressure (cmH <sub>2</sub> O)	functional urethral length (mm)
severe anterior vaginal prolapse (x±s)	114±41	335±128	65±43	18±6	22±11	62±20	18±6
slight anterior vaginal prolapse (x±s)	132±57	435±94	67±42	22±10	30±14	67±22	18±7
P value	0.153	<0.001	0.822	0.035	0.026	0.370	0.675

Table 2. The analysis on the rate of bladder dysfunction between severe and slight anterior vaginal prolapse

	Occult incontinence	bladder detrusor dysfunction	detrusor overactivity	low compliance	bladder obstruction	outlet	dyssynergia urethral sphincter	of external
severe anterior vaginal prolapse (n , %)	11(39.3%)	4 (11.4%)	1(2.9%)	1(2.9%)	2 (5.7%)		1 (2.9%)	
slight anterior vaginal prolapse (n , %)	4(11.4%)	9 (32.1%)	9 (32.1%)	4 (14.3%)	4 (14.3%)		1 (3.6%)	
P value	0.010	<0.044	0.002	0.098	0.253		0.873	

#### References

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2. Axelsen SM, Bek KM, Petersen LK. Urodynamic and ultrasound characteristics of incontinence after radical hysterectomy. J. Neuromuscul Urodyn, 2007, 26:794-799.

#### Disclosures

**Funding:** none **Clinical Trial:** Yes **Public Registry:** No **RCT:** Yes **Subjects:** HUMAN **Ethics Committee:** the Clinical Research Ethics of Committee Fujian provincial maternity and child health hospital **Helsinki:** Yes **Informed Consent:** Yes