

## URODYNAMIC EFFECTS OF BACLOFEN TREATMENT FOR FEMALE PATIENTS WITH VOIDING DYSFUNCTION

### Hypothesis / aims of study

Baclofen can be used to treat women with voiding dysfunction [1]. The knowledge of urodynamic effect of baclofen may help in consultation before treatment. Thus, the aim of this study is to investigate urodynamic effects of baclofen by comparison of urodynamic variables before and after 12 weeks' baclofen treatment for female patients with voiding dysfunction.

### Study design, materials and methods

Between January 2006 and December 2012, all women with voiding dysfunction that was evidenced by symptoms of voiding difficulty (i.e., slow stream, incomplete emptying, etc.), low maximum flow rate ( $< 15$  ml/s) and high detrusor pressure at maximum flow ( $> 25$  cmH<sub>2</sub>O), but without  $\geq$  stage II pelvic organ prolapse, and underwent 12 weeks' baclofen (5 mg three times a day) treatment were retrospectively reviewed, especially for medical records and urodynamic studies before and just after treatment.

### Results

Twenty women were found to meet the criteria of voiding dysfunction and underwent 12 weeks' baclofen treatment. All patients felt improvements of symptoms of voiding dysfunction from the medical records. Follow-up urodynamic studies revealed improvements of voiding volume, voiding efficiency and maximum flow rate at voiding cystometry (Table 1). However, postvoidal residual, the volume at strong desire to void, detrusor pressure at maximum flow, functional profile length, maximum urethral pressure, maximum urethral closure pressure and pad weight before treatment did not differ to those after treatment (Table 1). Besides, none reported significant adverse effects.

### Interpretation of results

Baclofen, a  $\gamma$ -aminobutyric acid agonist, did improve voiding dysfunction that evidenced by improvement of maximum flow rate, voided volume and voiding efficiency. Baclofen seems to exert its therapeutic effect on both detrusor muscle and urethral sphincter. Besides, baclofen did not deteriorate continence function of the urethra by the findings of non-significant changes of functional urethral profiles and urethral pressures.

### Concluding message

Baclofen can improve voiding function by the increase of maximum flow rate, voided volume and voiding efficiency. Besides, baclofen does not deteriorate continence function of the urethra.

Table 1. Comparisons of urodynamic parameters in 20 women with voiding dysfunction before and after baclofen treatment

Variable	Before	After	P‡
Age (years)	54.3±13.6	-	
Parity	2.6±1.5	-	
Qavr (ml/s)	4.9±2.2	4.8±2.0	0.91
Qmax (ml/s)	14.0±6.3	14.3±4.9	0.62
Voiding time (s)	86.7±68.5	116.1±64.0	0.12
Voided volume (ml)	273±168	368±138	0.002
Residual urine (ml)	152±96	124±53	0.32
Voiding efficiency (%)	62.8±18.9	73.6±13.3	0.0004
Qmax at cystometry (ml/s)	10.3±3.8	11.6±8.5	0.046
PdetQmax (cmH2O)	37.0±13.5	44.3±24.3	0.27
FS (ml)	187±51	192±49	0.68
FD (ml)	264±75	251±71	0.43
SD (ml)	342±83	337±90	0.84
Urg (ml)	418±127	384±117	0.25
FPL (cm)	4.0±1.4	3.6±1.3	0.64
MUP (cmH2O)	122±39	121±44	0.88
MUCP (cmH2O)	96±39	93±46	0.72
Pad weight test (g)	10.6±32.8	6.4±18.0	0.31

†Values were given as mean ± standard deviation. FD: volume at first desire; FS: volume at first sensation; FPL: functional profile length; MUCP: maximal urethral closure pressure; MUP: maximal urethral pressure; PdetQmax: detrusor pressure at maximal flow during voiding cystometry; Qavr: average flow rate; Qmax: maximum flow rate; SD: volume at strong desire to void; Urg: volume at urgency.

‡Wilcoxon signed-rank test.

#### References

1. Xu D, Qu C, Meng H, Ren J, Zhu Y, Min Z, Kong Y. Dysfunctional voiding confirmed by transdermal perineal electromyography, and its effective treatment with baclofen in women with lower urinary tract symptoms: a randomized double-blind placebo-controlled crossover trial. BJU Int 2007;100:588-92.

#### Disclosures

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