

## DOXAZOSIN FOR THE TREATMENT OF MEN WITH VOIDING DYSFUNCTION AND PARKINSON'S DISEASE: A CLINICAL AND URODYNAMIC ANALYSIS

### Hypothesis / aims of study:

Lower urinary tract dysfunction is an important cause of morbidity in patients with Parkinson's disease (PD). The role of alpha-blockers for managing voiding dysfunction in this population remains unexplored. In this study, we investigated the symptomatic and urodynamic effects of doxazosin in the short term treatment of lower urinary tract symptoms (LUTS) in patients with Parkinson's disease.

Study design, materials and methods: In a prospective study at one center, 20 men with Parkinson's disease and LUTS with a mean age of  $61.3 \pm 7.6$  years (range 45 to 75 years) were evaluated. Neurological dysfunction was assessed using the Hoehn and Yahr scale (HY) and varied from 2 to 4 (mean  $3.3 \pm 0.7$ ). Urological assessment was performed at baseline and after 8 weeks of treatment with 4 mg/day of extended release doxazosin, including symptomatic evaluation with the International Continence Society male short-form questionnaire (ICSmsfQ) and a pressure-flow urodynamic study.

### Results:

Compared with baseline, the total ICSmsfQ was substantially reduced from  $20.4 \pm 7.7$  to  $13.9 \pm 6.1$  ( $p < 0.001$ ). Both voiding (ICSmaleVS) and incontinence (ICSmaleIS) symptoms were significantly improved, with the voiding symptoms reduced from  $7.8 \pm 4.7$  to  $5.1 \pm 3.9$  ( $p=0.004$ ) and the incontinence symptoms reduced from  $5.9 \pm 3.2$  to  $4.1 \pm 1.7$  ( $p=0.008$ ). The impact of voiding dysfunction on daily life measured by the ICSmsfQ was significantly reduced from  $2.1 \pm 1.1$  to  $1.6 \pm 0.7$  ( $p=0.028$ ). No significant changes were observed in any urodynamic parameters including maximum urinary flow rate (varied from  $9.3 \pm 4.8$  to  $10.3 \pm 5.4$  ml/s;  $p = 0.500$  vs baseline), mean bladder capacity (varied from  $316 \pm 90$  to  $323 \pm 113$  ml;  $p = 0.791$ ) and detrusor pressure at maximum flow (varied from  $64.6 \pm 27.2$  to  $60.1 \pm 13.5$  ml;  $p = 0.547$ ). Adverse events, most frequently dizziness was usually mild and transient and led to a discontinuation of doxazosin therapy in one patient. No clinically significant changes in neurological symptoms was observed during the study.

### Interpretation of results

Although a significant clinical improvement was observed in patients with lower urinary tract symptoms and Parkinson's disease treated with doxazosin, the relief of voiding symptoms did not correlate with changes in urodynamic measures. Placebo-controlled studies will be necessary to define the role of alpha-adrenoceptor antagonists in the treatment of voiding dysfunction in these patients.

### Concluding message

Pharmacological treatment with doxazosin of patients with Parkinson's disease and lower urinary tract dysfunction resulted in significant symptomatic improvement and was well tolerated but was not accompanied by any significant change of urodynamic parameters.