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THERAPEUTIC EFFECTS OF DOPAMINERGIC DRUGS IN EARLY UNTREATED PARKINSONIAN PATIENTS WITH URINARY DYSFUNCTION; A PRESSURE-FLOW ANALYSIS

Background Recently dopaminergic drugs are the main therapy for patients with Parkinson's disease (PD). However, exact effects of the drugs on urinary function are not ascertained despite the fact that many patients with PD are troubled with not only motor but also urinary disorders. We tried to investigate the effects of the drugs in 5 patients.

Methods We recruited 5 early, previously untreated, PD patients including 4 men and 1 woman, mean age 62 years, mean Hoehn and Yahr stage 2. None had apparent prostate hypertrophy by digital examination and ultrasound echography. Detailed questionnaire showed urinary symptoms in all patents including urinary urgency in 4, day time frequency in 3, urge incontinence in 3, prolongation in 2, sensation of residual urine in 2, night time frequency in 1, stress incontinence in 1 and intermittency in 1. Two had low maximum flow rate (Qmax) and 2 had post-micturition residuals (mean 73 ml). Urodynamic studies with 7F triple-lumen catheter showed detrusor hyperreflexia in 4, decreased bladder capacity (<200 ml) in 2 and detrusor-sphincter dyssynergia in none. Pressure-flow analysis using Schäfer's nomogram showed obstructed pattern in 1 and weak detrusor in 1. After 2 months treatment with dopaminergic drugs (pergolide 750 mg/day in 2 and l-dopa/benserazide 300 mg/day in 3), we again performed the questionnaire and the urodynamics.

Results After the treatment 4 of 5 patients showed an improvement in urinary symptoms including filling symptoms in 3 and voiding symptoms in 3. Urodynamic studies showed an increase of Qmax in 2, disappearance of residual urine in 2, disappearance of detrusor hyperreflexia in 1 of 4 patients and increased bladder capacity in 2. None had an appearance of detrusor-sphincter dyssynergia. Pressure-flow analysis showed an increase of detrusor contractility in 2 (one from weak to normal, and another from normal to strong) but also showed an appearance of outlet obstruction in 2 (one from grade 0 to 2, and another from grade 0 to 3).

Conclusion Our results showed that dopaminergic drugs benefited parkinsonian patients with urinary dysfunction. It seems likely that these centrally-acting drugs could modulate both filling and voiding function probably via distinct micturition circuits. However, the appearance of obstructive pattern may reflect peripherally-metabolized, probably α1-adrenergic, side effect of l-dopa.