

COMPARISON OF LOWER URINARY TRACT SYMPTOMS AND URODYNAMIC PARAMETERS BETWEEN PATIENTS WITH IDIOPATHIC PARKINSON'S DISEASE AND PARKINSONISM

Hypothesis / aims of study

Voiding dysfunction with lower urinary tract symptoms (LUTS) is one of the most common autonomic dysfunction in patients with Parkinson's disease (PD). Clinically, PD is classified into idiopathic Parkinson's disease (IPD) and Parkinsonism. We tried to identify whether LUTS and urodynamic findings are different between patients with IPD and Parkinsonism.

Study design, materials and methods

A total 138 patients with LUTS were diagnosed as having PD and underwent urodynamic study in our institution. Patients were divided into IPD (Group A, n=42) and Parkinsonism (Group B, n=96) based on the clinical feature of PD. The results of 3-day frequency volume chart (FVC), IPSS, and urodynamic findings including uroflowmetry (UFR), filling cystometry (CMG), and pressure flow study (PFS) were compared between both groups.

Results

There were no differences in age at diagnosis (68.9 and 66.9 yrs in Group A and B, respectively), IPSS-storage scores, voiding scores, and quality-of-life scores between both groups. In addition, episodes of daytime frequency and nocturia, and volume of functional bladder capacity in 3-day FVC were similar between groups. In UFR, maximum flow rate (Qmax) was significantly lower in Group B than Group A, however, there was no difference in post-void residual volume. In filling CMG, volume of first and strong desire to void, maximum cystometric capacity, detrusor compliance, and presence of detrusor overactivity did not differ between groups. In PFS, Qmax was significantly lower in Group B, however, detrusor pressure at Qmax did not differ between groups. Detrusor underactivity (DU) was significantly more observed in Group B (Table).

Interpretation of results

Although there was no difference in the severity of LUTS between patients with IPD and Parkinsonism, patients with Parkinsonism had significantly lower Qmax and higher prevalence of DU in urodynamic findings.

Concluding message

Our study may suggest that physicians pay more attention when they prescribe antimuscarinic agents to patients with Parkinsonism for the treatment of storage symptoms, compared to patients with IPD.

Table. Comparison of urodynamic parameters between idiopathic Parkinson's disease and Parkinsonism

	Group A (n=42)	Group B (n=96)	p-value
Uroflowmetry			
Qmax (ml/sec)	13.6 ± 10.8	9.5 ± 6.2	0.019
PVR (ml)	84.5 ± 155.7	89.1 ± 97.4	0.854
Filling CMG			
First desire to void (ml)	158.9 ± 94.3	186.4 ± 119.6	0.197
Strong desire to void (ml)	246.3 ± 135.9	257.7 ± 131.6	0.673
Maximal capacity (ml)	300.7 ± 145.4	313.4 ± 149.8	0.644
PFS			
PdetQmax (cmH ₂ O)	32.3 ± 20.2	39.4 ± 28.7	0.202
Qmax (ml/sec)	14.1 ± 7.6	10.3 ± 5.7	0.005
Urodynamic diagnosis			
Pseudo-DSD	2 (4.8)	4 (4.2)	0.862
DO	23 (54.8)	60 (62.5)	0.448
DU	10 (23.8)	40 (41.7)	0.045

Qmax: maximum flow rate, PVR: post-void residual volume, CMG: cystometry, PFS: pressure-flow study, DSD: detrusor sphincteric dyssynergia, DO: detrusor overactivity, DU: detrusor underactivity. Values are given as mean ± SD or number of patients (%).

Disclosures

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