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Objectives
To investigate which is more contributing to elderly overactive bladder (OAB) / urinary incontinence in Parkinson’s disease (PD)/ benign prostatic hyperplasia (BPH).

Methods
We had 177 patients. Regarding the prostate volume, we divided them into 5 groups: BPH without PD, 12; male PD with large BPH (ultrasound prostate volume >30 ml), 20; male PD with small BPH (20–30 ml), 11; male PD without BPH, 46; and female PD, 88. We performed a urinary symptom questionnaire and a urodynamics. Statistics was performed using Student’s t-test and Spearman’s rank correlation coefficient test.

Results
1) Frequency of detrusor overactivity (DO) in PD without BPH (male 61.3%, female 73.3%) was almost the same with that in BPH without PD (male 60%). However, 2) bladder volume at the first sensation (p<0.01), at the normal desire to void (p<0.01, 0.05) in PD without BPH were significantly smaller than that in BPH without PD. 3) Phasic DO in PD without BPH (41.9-64.3%) was more common than that in BPH without PD (20%). 4) 40.2% of male PD had concurrent BPH (mean volume 39 ml; almost the same with that [45 ml] in pre-surgical BPH without PD). 5) In PD, disease duration and HY motor grade had positive impact on smaller bladder capacity (p<0.05 and p<0.01, respectively), while age did not affect LUT function.

Interpretation & Conclusion
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Table 1 Patients demographic.

Table 2 Detrusor overactivity and bladder sensation between prostate hyperplasia and PD.

Table 3 Detrusor overactivity and bladder sensation in between age, duration and HY motor grade in PD.

(Pathophysiology) The mechanism to determine either phasic or terminal DO remains to be answered, and future studies are warranted.

(Clinical relevance) 1) Alpha blocker for BPH may worsen postural hypotension in PD/BPH patients, while alpha-adrenergic agonists for postural hypotension may worsen urinary retention. 2) Prostatic surgery is not contraindicated in PD/BPH patients, but we should exclude multiple system atrophy carefully. 3) It is highly recommended that urologists and neurologists collaborate together for such patients.

BPH and PD might occur together. Bladder volume in PD is significantly smaller than that in BPH, indicating that PD is more contributing to elderly OAB/ urinary incontinence. Phasic DO might suggest PD.