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PARKINSON'S DISEASE AND PROSTATE HYPERPLASIA: WHICH IS MORE CONTRIBUTING TO OVERACTIVE BLADDER?

Hypothesis / aims of study

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

Study design, materials and 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.

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 ($p<0.01$) and at bladder capacity ($p<0.01$, 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.

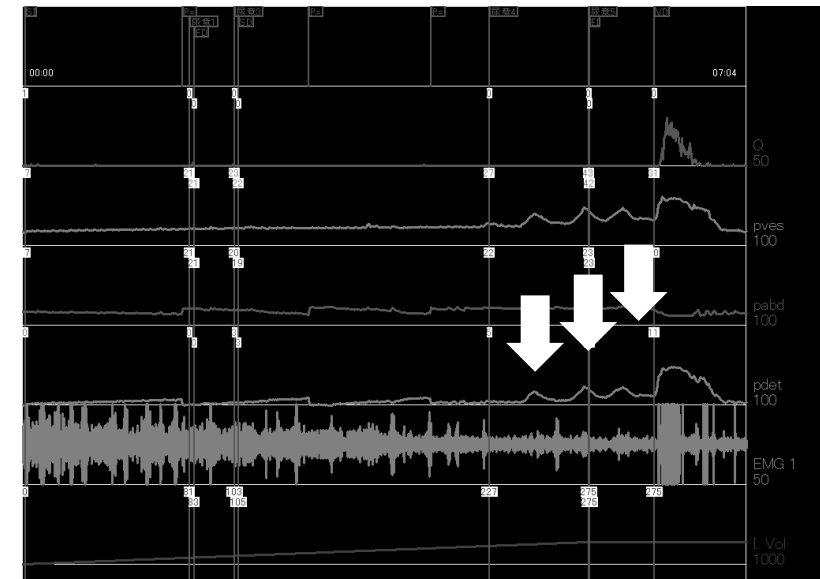
Interpretation of results

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

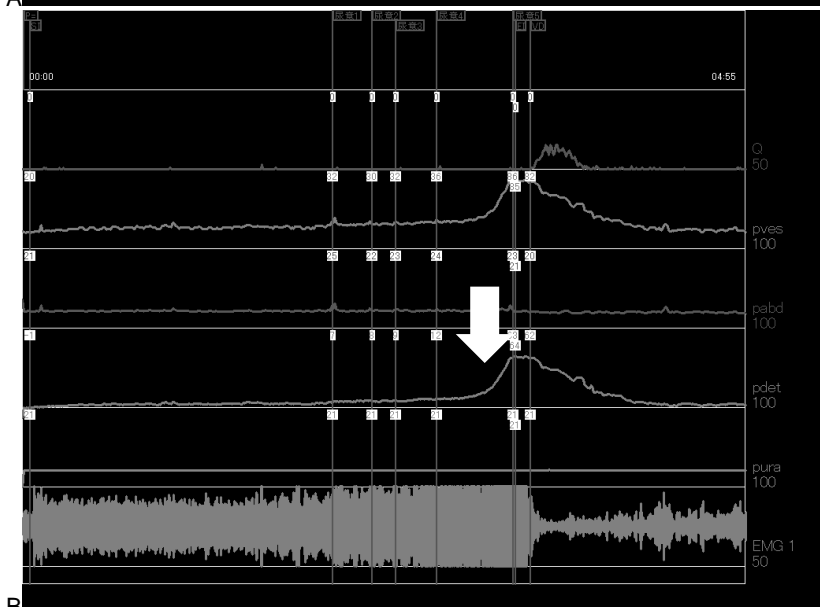
(Clinical relevance) 1) Alpha blocker for BPH may worsen postural hypotension in PD/BPH patients, while alpha-adrenergic agonists for postural hypotension may worsen urinary retention. 2) Prostatic surgery is not contraindicated in PD/BPH patients, but we should exclude multiple system atrophy carefully.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

Concluding message

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.



A phasic type



B terminal type

Figure 1. Pattern of detrusor overactivity during a filling phase urodynamics.

gender	diseases	detrusor overactivity (phasic) (%)	detrusor overactivity (terminal) (%)	obstruction (%)	first sensation volume (ml)	normal desire to void (ml)	strong desire to void (ml)
male	prostate hyperplasia	20	40	50	163	265.6	362.1
male	PD + prostate hyperplasia (p. volume >30 ml)	64.3	28.6	44.4	124.3	171.2 **: P<0.01	261 *: P<0.05
male	PD + prostate hyperplasia (p. volume 20-30 ml)	50	37.5	37.5	112.3	155.6 **: P<0.01	236.5 *: P<0.05
male	PD	41.9	19.4	9.8	117.6	173.8 **: P<0.01	245.9 **: P<0.01
female	PD	46.7	26.6	4.4	105.9 **: P<0.01	154 **: P<0.01	267.1 *: P<0.05

Table 2 Detrusor overactivity and bladder sensation between prostate hyperplasia and PD. PD: Parkinson's disease.

Disclosures

Funding: We have no funding. Clinical Trial: No Subjects: HUMAN Ethics Committee: Ethics Committee in Sakura Medical Center, Toho University Helsinki: Yes Informed Consent: Yes