



## Urinary Bladder Problems in Parkinson's disease

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Prevalence of lower urinary tract symptoms (LUTS) in Parkinson's disease (PD) patients is reported to range from 38% to 71%.<sup>1</sup> Common symptoms include nocturia, urinary urgency, incomplete bladder emptying and urinary retention. These symptoms may also be caused by urinary tract infection, prostatic hypertrophy, diabetes mellitus or medications used for other medical conditions.

In some cases patients may not be able to make it to the washroom on time during the OFF period, particularly at night when the plasma level of the medications is low leading to incontinence. Bladder problems do not typically occur in the beginning of the Parkinson's disease. If the patients have urinary dysfunction at the onset of Parkinson's disease then atypical parkinsonism such as multiple system atrophy should be considered in the differential diagnosis. PD patients have reduced bladder capacity together with detrusor overactivity and uninhibited external sphincter relaxation, which contribute to these symptoms. Detrusor overactivity can be the major contributing factor to overactive bladder in PD.<sup>1</sup> Paradoxical co-contraction of urethral sphincter muscle has been described as an off period phenomenon. A study done by Araki et al found the LUTS was well correlated with the severity of the disease

rather than with the disease duration or the age. The study found that the incidence of symptomatic patients significantly increased with an increase in the stage of disability, being 33% and 64% at stages 3 or higher and stages 4 or higher.<sup>3</sup>

Since LUTS could have neurological origin, be a result of drugs such as levodopa or dopaminergic agents, associated with prostate hypertrophy in men and stress incontinence in women, consultation with urologist and urodynamic studies are important in the management of urinary dysfunction in PD patients. Anticholinergic medications such as oxybutinin and tolterodine are used to treat detrusor overactivity. These medications can cross blood brain barrier and may cause delirium and cognitive dysfunction in elderly patients. The following measures may be taken to control symptoms:

- Avoiding fluids before bed time.
- Keeping a urinal close to bed at night if difficulty getting to the bathroom because of slowness in the night.
- In patients with incontinence, drinking cranberry juice may help decreasing the odor.
- Anticholinergic drugs with antimuscarinic activity such as following are helpful for detrusor hyperreflexia :

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- Oxybutinin (ditropan) 5 mg 1-2 times daily (side effects: dry mouth, drowsiness, blurred vision, constipation, cognitive dysfunction and delirium).
- Botulinum toxin injections may be used for detrusor hyperreflexia, or sphincter problems.
- Urinary retention may be treated with Bethanechol chloride 25 – 75 mg daily
- Intermittent self catheterization.

#### REFERENCES

1. Sakakibara R, Kishi M, Ogawa E, Tateno F, Uchiyama T, Yamamoto T, et al. Bladder, Bowel, and Sexual Dysfunction in Parkinson's disease. *Parkinsons Dis* 2011; Epub 2011 Sep 12. doi:10.4061/2011/924605.
2. Campos-Sousa RN, Quagliato E, da Silva BB, de Carvalho RM Jr, Ribeiro SC, de Carvalho DF. Urinary symptoms in Parkinson's disease: prevalence and associated factors. *Arq. Neuro-Psiquiatr.* 2003; 61: 359-363.
3. I. Araki, S. Kuno. Assessment of voiding dysfunction in Parkinson's disease by the international prostate symptom score. *J Neurol Neurosurg Psychiatry* 2000; 68(4):429-433.