

One treatment option of lower urinary tract symptoms in patients with Parkinson's disease: is the effect of Adenosine A2A receptor antagonist istradefylline to lower urinary tract symptoms sustainable in the long term?

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Introduction

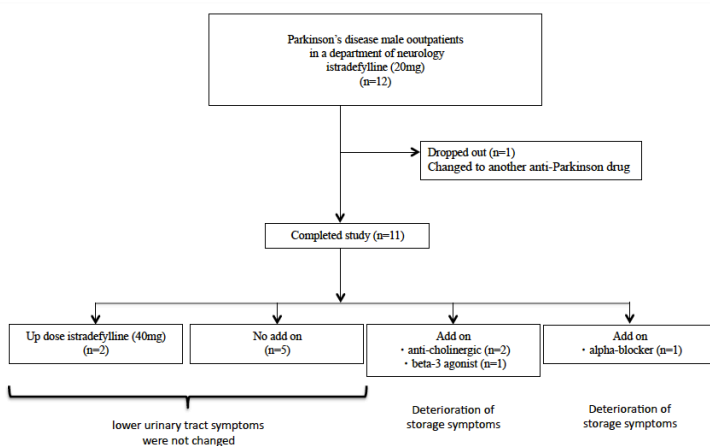
- ✓ In Parkinson's Disease (PD), bladder dysfunction is a major clinical issue.
- ✓ Bladder dysfunction is some times non-responsive to levodopa.
- ✓ Adenosine A2A receptor antagonists are non-dopaminergic therapeutic target.
- ✓ The adenosine receptor A2A is strongly expressed in the striatum, interacts with dopamine D2 receptors, and modulates dopamine transmission.
- ✓ Istradefylline, adenosine A2A receptor antagonist, was approved in 2013.
- ✓ We previously reported that Istradefylline improved not only symptoms, but also lower urinary symptoms (LUTS) in patient with PD in one one-year period¹). However, the long term effects of istradefylline for LUTS has not yet been clarified.

The aim of this study was to survey the effects of **3 years** istradefylline treatment on LUTS in male PD patients.

Methods

- ✓ Observational study
- ✓ March 2015 - July 2015
- ✓ Patients were invited consecutively from the Department of Neurology.
 - 12 male PD patients
 - Age: 69 (63-88) years old
 - Hoehn-Yahr stage: 2 (2-3)
 - Disease duration: 11 (7-29) years
- ✓ During 1st year, no changes to the type of rehabilitation or PD medication were required.
- ✓ After 1 year treatment, neurologist and urologist can change both anti-Parkinson drug and LUTS treatment drugs without any limitations.
- ✓ We mainly focused on the treatment changes of PD patients during **3 years**, after 1 year administration of istradefylline.

Results



- ✓ One patient was discontinued istradefylline and changed to another anti-Parkinson drug because of the clinical condition.
- ✓ No adverse urological effects were observed in any patient.
- ✓ Two patients were increased the dose of istradefylline (40mg/day: maximum dose) for the control of PD symptoms during 3 years, and these two patients were not changed LUTS and no additional urological therapy.
- ✓ And 5 patients were not changed urological therapy (only changed anti-Parkinson drugs). Storage symptoms in three patients were deteriorated and added on anti-cholinergic agents or beta-3 agonist. Voiding symptoms in one patient were deteriorated and added on alpha-blocker.

Discussion

- ✓ This study revealed that **91.7%** male patients with PD continued istradefylline 3 years without any adverse effects, of which **63.6%** patients were maintained LUTS without any urological therapy.
- ✓ The prevalence of LUTS/BPH increases with age and it deteriorated quality of life. LUTS are more likely to occur at more advanced stages of PD, and progressively deteriorate with the disease duration. However, natural course of LUTS in the patients of PD is not fully understand.
- ✓ One-fourth patients need additional urological treatment despite an appropriate neurological treatment. There is no real-world data of adenosine A2A receptor antagonist for the treatment of PD. We think this is a very informative study for physicians and patients. Previous data reported that not only storage symptoms, but also voiding symptoms were improved by the treatment with istradefylline during one year. However, the current study was prospective study, we could not decide the long-term effect of istradefylline for LUTS.

Conclusion

Istradefylline is a very tolerable drug, and could effectively improve not only motor symptoms, but also LUTS in patients with PD in a long-term period.