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The use of Mirabegron in the treatment of overactive bladder in patients affected by Parkinson's disease

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Introduction and Aim of the study

In patients with Parkinson's disease (PD), overactive bladder (OAB) has a higher prevalence due to their older age and the impact of urinary symptoms may be more pronounced due to the increased burden of concomitant chronic comorbidities. Mirabegron is a specific agonist of β_3-adrenoceptors in the human detrusor, stimulation of which leads to active relaxation of the human detrusor in the storage phase. **Aim of the study was to evaluate the efficacy and tolerability of Mirabegron in PD patients with OAB and different comorbidities, who stopped antimuscarinic medications for intolerable adverse effects.**

Materials and Methods

Nineteen PD patients who experienced intolerable side effects to a previous treatmen w i t h antimuscarinics, were included in the study. Baseline evaluation included **3-day voiding d i a r y, uroflowmetry** and **VAS** to score the bother of urinary symptoms on Quality of Life (0= worse; 10= best). Patients started assuming **Mirabegron 50 mg once daily.** Patients were evaluated again at **1, 3 and 6 months follow up** with the 3- day voiding diary, uroflowmetry and VAS. Side effects during treatment were also noted

Results

Ten males and 9 female were enrolled; mean age was 76 ± 4.2 yrs. Patients have been previously assuming solifenacin, propiverine and trospium chloride at different dosages for different times. These medications have been stopped in all cases due to intolerable side effects, mainly constipation. **All patients presented with urgency and urgency urinary incontinence (UUI)**; the mean daily frequency of urgency and UUI were 9.7 ± 3.6 and 4.2 ± 2.1, respectively. **At 3 months follow up, 6 (30%) patients stopped Mirabegron**, due to: lack of efficacy (in 4 cases) and the cost of the drug (in 2 cases). In the remaining 13 patients, mean daily frequency of urinary urgency episodes and of UUI were reduced to 6.2 ± 2.9 and 3.1 ± 1.3, respectively. Most importantly, the mean VAS score significantly improved from 3.8 ± 0.9 to 6.6 ± 1.7 (Table 1). We did not observe any intolerable side effects. **At the 6 mos follow up these favourable results persisted in all 13 patients.**

Table 1

	Basaline (mean ±SD)	**3 month follow- up** (mean ±SD)
Urgency	9.7 ± 3.6	6.2 ± 2.9
Urgency urinary incontinence	4.2 ± 2.1	3.1 ± 1.3
VAS	3.8 ± 0.9	6.6 ± 1.7

Conclusion

The results of the present study represent, to the best of our knowledge, **the first observation on the efficacy and tolerability of Mirabegron in PD patients with refractory overactive bladder**. In this study, about 70% of PD patients continued to assume Mirabegron at the 6 month follow up, with a significant improvement in their OAB symptoms. The lack of intolerable side effects with Mirabegron, in our patients previously refractory to antimuscarinics due mainly to tolerability issues, can be considered the more relevant aspect of this kind of treatment in patients with PD and OAB.