SAFETY AND EFFICACY OF MIRABEGRON IN PATIENTS WITH PARKINSON'S DISEASE AND STORAGE LOWER URINARY TRACT SYMPTOMS: A SINGLE-CENTER SERIES

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OBJECTIVE

- No specific data on the safety and efficacy of mirabegron in patients with Parkinson's disease exist
- Our aim was to assess the outcomes of mirabegron for the treatment of overactive bladder (OAB) symptoms in patients with Parkinson disease (PD).

METHODS

- A retrospective study was conducted including patients with PD who received mirabegron 50 mg once daily for OAB symptoms between 2012 and 2017
- The primary endpoint was clinical success defined as any improvement in overactive bladder symptoms self-assessed by the patients 6 weeks after mirabegron initiation.
- Secondary endpoints included number of pads per day, number of nocturia episodes and adverse events.
- Univariate logistic regression and Cox proportional hazards models were used to define predictive factors of success and persistence with mirabegron respectively.

RESULTS

- Fifty patients (74 years old on average, 70% of male) were included.
- Before being treated with mirabegron, 56% were inadequately treated with prior anticholinergic therapy due to inadequate efficacy or intolerable side effects.
- After 6 weeks of mirabegron 50 mg, five patients (11.4%) had a complete resolution of their OAB symptoms; 25 patients (50%) reported improvement, 23 (46%) reported no change and 2(4%) reported worsening of their OAB symptoms.
- The number of pads per day decreased from 1.5 to 0.9 (p=0.01) and so did the number of nocturia episodes (from 3 to 2.6/night; p=0.02).
- Only 2 adverse events were reported during mirabegron treatment (4%): one dizziness and one diaphoresis, that disappeared after mirabegron discontinuation.
- After a median follow-up of 19 months, 23 patients (46%) persisted on mirabegron.
- The median time to discontinuation was 17 months. Persistence rates were 51.5%, 44.6% and 36.4% at 1, 2 and 3 years respectively.
- Univariate analysis did not identify predictive factors for treatment success. Male gender was predictive of longer duration of treatment with mirabegron (HR=4.94; p=0.002).

	Patients' characteristics N=50
Mean age (years)	74.6 (±8.9)
Gender Male Female	 35 (70%) 15 (30%)
UPDRS (/199)	63.7 (±17)
Hoehn and Yahr Staging (/5)	2.7 (±0.9)
Schwab and England ADL (%)	66.8 (±21.2)
Levodopa Equivalent Daily Dose (mg)	484.3 (±447.4)
History of anticholinergics intake	28 (56%)

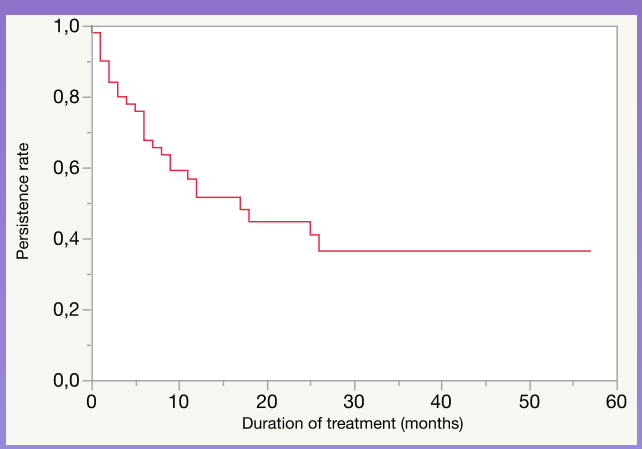

Fig. 1. Long-term persistence of mirabegron in patients with Parkinson's disease.

	Before mirabegron	6 weeks after mirabegron	p-value
Mean maximum urinary flow rate	9.7 (± 5.7)	10.1 (± 4.5)	0.82
Mean post-void residual volume (ml)	61 (± 96.3)	67.3 (± 87.7)	0.58
Urinary Incontinence			
Yes	44 (88%)	39 (78%)	0.18
No	6 (12%)	11 (22%)	
Mean number of pads per day	1.5 (± 2.1)	0.9 (± 1.3)	0.01
Mean number of nocturia episodes/24h	3 (± 2.2)	2.6 (± 0.4)	0.02

LIMITATIONS and CONCLUSIONS

- Limitations include retrospective design and limited sample size
- Mirabegron has an excellent safety profile patients and appears to be an effective treatment for overactive bladder symptoms in with PD.