

MIRABEGRON IN REFRACTORY NEUROGENIC URINARY INCONTINENCE: EXPERIENCE OF A SINGLE CENTRE

Hypothesis / aims of study

Mirabegron, a recent β -3 agonist, is a potential new drug for treatment of neurogenic detrusor overactivity (NDO) (1, 2). Aim of the study was to evaluate its efficacy in urge-urinary incontinence due to NDO (uiNDO) resistant (totally or partially) to anticholinergics.

Study design, materials and methods

A retrospective chart analysis of patients (pts) with uiNDO resistant to conventional therapies - included botulinum toxin injections in 6 cases - and treated with Mirabegron 50 mg/die was carried out. Pts in whom was available a 4-day bladder diary incorporating the Patient's Perception of Intensity of Urgency Scale (PPIUS) (3) and a single question on improvement of quality of life (QoL) (Yes or No) before and after Mirabegron therapy were included. Changes in mean bladder capacity, PPIUS and perception of QoL were evaluated by means of a Wilcoxon signed-rank test.

Results

Fortyfour pts (28 males) treated for an average period of 8 months (min 1.5, max 22) were recruited; the mean age was 52 years (min 23, max 77).

Underlying diseases were spinal cord injury (SCI) in 26 cases (59.1%), multiple sclerosis (MS) in 10 (22.7%) and other conditions in 8 (18.2%).

29 pts (65.9%) voided by clean intermittent catheterization (CIC) and 61.4% of them used anticholinergics, mainly oxybutinin. At urodynamics, performed in 36 cases, there was NDO at the mean pressure of 64 cm H₂O.

After mirabegron uiNDO was improved in 31 pts (70.5%) with 3 SCI pts who even reported the complete recovery; QoL improved for 63.6% of pts.

A mean statistically significant reduction of PPIUS was found ($p < 0.001$), as well a statistically significant improvement in bladder capacity ($p < 0.001$). Among ameliorated pts the mean PPIUS reduction observed was 1.5 (from 3.7 to 2.2) while the average improvement in bladder capacity was 121 ml (from 223 to 334).

Moreover 12/18 pts who used on average 3.8 pads/die (range 1-7) decreased their use to 2.0 pads/die (range 0-4). Also frequency of CIC fell slightly from a mean of 5.1 to 4.7.

The clinical improvement has concerned 5 pts (33.3%) of those who voided spontaneously and 26 (89.7%) of those in CIC. PPIUS reduction and bladder capacity improvement were found statistically significant for both sexes ($p < 0.001$), as well in SCI pts ($p < 0.001$) but they did not reach statistical significance for pts with MS due to the small number of cases.

Pts with lower bladder pressure overactivity (≤ 70 cm H₂O) were more likely to respond to the therapy (79.2%) as compared to pts with higher pressure values. The proportion of responders who used in association anticholinergics was 71%.

Side effects were observed in 2 cases (1 diastolic hypertension and 1 drowsiness).

Interpretation of results

A significant improvements in clinical parameters and QoL was observed in about 70% of uiNDO refractory to conventional therapies using Mirabegron. Combination therapy with anticholinergics is effective and beneficial, especially in SCI pts in CIC.

Concluding message

In our experience most of pts complaining refractory uiNDO improved with Mirabegron.

In an ethical perspective, and waiting prospective multicentric studies with adequate follow-up, we advice a greater use of this drug in NDO.

References

1. Wöllner J, Pannek J: Initial experience with the treatment of neurogenic detrusor overactivity with a new β -3 agonist (mirabegron) in patients with spinal cord injury. *Spinal Cord*. 2015 Oct 27
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Disclosures

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