

OBJECTIVE EFFICACY OF MIRABEGRON ON STORAGE AND VOIDING FUNCTION IN PATIENTS WITH OVERACTIVE BLADDER THAT IS UNRESPONSIVE TO ANTIMUSCARINIC TREATMENT, BASED ON A URODYNAMIC STUDY

Aims of study

Oral anti-muscarinic agents are currently the mainstay pharmacotherapy for the treatment of overactive bladder (OAB). However, some patients experience insufficient improvement or adverse events such as dry mouth and constipation. Such patients either persist with the unsatisfactory treatment or discontinue therapy.

Mirabegron is a novel, first-in-class selective β_3 -adrenoceptor agonist. The results of the phase III clinical trials performed in the US, Europe, and Japan using this agent have reported to relieve subjective symptoms associated with OAB. However, the evidence proving that, this drug is effective for OAB that is unresponsive to antimuscarinic treatment is absent. We investigated the objective effectiveness of mirabegron for patients with OAB that cannot be managed with antimuscarinics

Materials and methods

In this prospective study, 60 OAB female patients already treated with antimuscarinic agents having poor therapeutic effects (OAB symptom scores (OABSS) of ≥ 3 and ≥ 1 urgency episodes a week). The patients stop taking antimuscarinics and after 2 weeks wash out, received 50 mg mirabegron once a day for 12 weeks. The OABSS was conducted before and after mirabegron administration to evaluate subjective symptom severity. In this UDS, we assessed the first desire to void (FDV), maximum cystometric capacity (MCC), and detrusor overactivity as parameters of storage function. Maximum flow rate (Q_{max}) and detrusor pressure at Q_{max} (P_{det}Q_{max}) were assessed as parameters of voiding function.

Results

Out of 60 patients, 2 (3.3%) discontinued treatment owing to adverse reactions, which included dry mouth (n = 1) and palpitation (n = 1). As a result, the analysis included 58 patients with a mean age of 73.7 years. Between pre- and post-administration, the mean OABSS score decreased from 8.1 to 4.8 points ($p < 0.001$), indicating significant improvement of subjective symptoms. Urgency episodes improved to < 1 per week in 31 (53.4%) patients after mirabegron administration.

From the UDS results, we observed a statistically significant improvement in the storage function parameters, with mean FDV and MCC. Although detrusor overactivity was observed in 37 patients (63.8%) before administration, it disappeared or alleviated in 18 of 37 patients (48.6%) after mirabegron administration ($p < 0.001$). (Figure.1) The parameters of voiding function, mean Q_{max} and P_{det}Q_{max}, did not significantly change after mirabegron administration. On voiding function, mirabegron does not inhibit voiding function.

Concluding message

Mirabegron was shown to be effective in women with OAB that is unresponsive to antimuscarinic treatment in terms of both subjective symptoms and bladder storage function. In addition, this drug does not affect voiding function, and the incidence of side effects is low. Mirabegron may be a new therapeutic alternative for treating OAB.

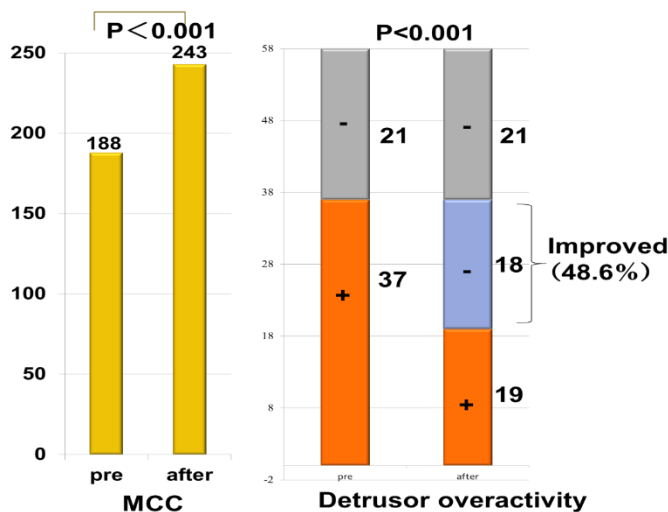


Figure.1

Disclosures

Funding: None **Clinical Trial:** Yes **Public Registry:** No **RCT:** No **Subjects:** HUMAN **Ethics Committee:** The Ethics Committee at Nagoya University Graduate School of Medicine **Helsinki:** Yes **Informed Consent:** Yes