

COMPARISON OF α_1 -BLOCKER MONOTHERAPY OR FOLLOWED WITH ANTIMUSCARINIC IN THE TREATMENT OF OVERACTIVE BLADDER SYMPTOM SUGGESTIVE OF DETRUSOR OVERACTIVITY IN BPH

Hypothesis / aims of study

Detrusor overactivity (DO) is one known cause of overactive bladder(OAB) symptoms in benign prostatic hyperplasia(BPH). The probability of DO rises with increasing age and bladder outlet obstruction (BOO) grade. α_1 -blocker and antimuscarinic have been effectively used to alleviate BPH/ BOO and OAB symptoms. However, a retrospective study found that risk of AUR was the highest in the first month of antimuscarinic treatment. In this study, OAB symptoms suggestive of DO in BPH were treated with α_1 -blocker monotherapy or followed with antimuscarinic, the efficacy and safety were assessed.

Study design, materials and methods

Consecutive BPH patients(more than 50 years old) who suffered from typical OAB symptoms for at least 1 month were enrolled a prospective self-control study at one urology clinic from August 2010 to March 2012. In initial urodynamics evaluations, all patients' Pdet max should be more than 40cmH₂O in pressure-flow test, DO was present more than one time, the Schafer nomogram was used to determine BOO from 0 to VI grade. The baselines with total international prostate symptom score (IPSS) ≥ 8 , OAB Symptom Score (OABSS) ≥ 3 and OABSS urgency score ≥ 2 , Postvoid residual volume(PVR) ≤ 100 ml, maximum urinary flow rate (Q_{max}) ≥ 5 ml/s, After the initial evaluation, all patients were treated with α_1 -blocker (tamsulosin 0.2mg/day or doxazosin 4 mg/day) for 2 weeks. After 2 weeks, patients with no symptomatic improvement(OABSS ≥ 3), antimuscarinic (solifenacin 5mg/day or tolterodine extended release 4mg/day) was added for an additional 2 weeks. IPSS, OABSS, PVR and Q_{max} were re-evaluated every week in study procedure.

Results

94 cases of BPH/OAB patients met the inclusion criteria and completed 4 weeks treatment. The initial average baseline of total IPSS was 17, OABSS was 7, PVR was 96ml and Q_{max} was 8.8ml/s. After 2 weeks treatment with with α_1 -blocker alone, total IPSS was 14, OABSS was 5, PVR was 68ml and Q_{max} was 11.4ml/s. After another 2 weeks treatment with with α_1 -blocker plus antimuscarinic, total IPSS was 11, OABSS was 3, PVR was 72ml and Q_{max} was 10.8ml/s. Compared with baseline values, total IPSS ,OABSS, PVR and Q_{max} were significant improvement ($p < 0.05$) in α_1 -blocker monotherapy group and α_1 -blocker plus antimuscarinic group. Total IPSS and OABSS scores of α_1 -blocker plus antimuscarinic group were lower than α_1 -blocker monotherapy group ($p < 0.05$), PVR and Q_{max} were no differences between two groups. Case of acute urinary retention (AUR) was not found.

Interpretation of results

α_1 -blocker is initial therapy in BPH with BOO and can partly improve OAB symptoms. Successful use of α_1 -blocker in treating patients with LUTS is based on targeting both prostate α_{1A} ARs and bladder α_{1D} ARs that are important in relieving obstructive and storage symptoms, respectively. α_1 -blocker is initial therapy in BPH with BOO and can partly improve OAB symptoms. The main mechanism of action of antimuscarinics used for treatment of OAB were reduction of detrusor contractility, however, Antimuscarinics act mainly during the filling/storage phase, and in the doses recommended for treatment of OAB, there is little effect on detrusor contractility. Several studies showed that combined antimuscarinic + α_1 -blocker treatment is generally more effective than monotherapy or placebo in men with OAB. symptoms.

Concluding message

Both of α_1 -blocker monotherapy or followed with antimuscarinics can improve OAB symptoms suggestive of BPH/BOO. Clinically meaningful improvements and more safety can be achieved by addition of an antimuscarinic therapy to an α_1 -blocker.

References

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Disclosures

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