COMPARISON OF A1- 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. $\alpha$-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 $\alpha$-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) $\geq$ 8, OAB Symptom Score (OABSS) $\geq$ 3 and OABSS urgency score $\geq$ 2, Postvoid residual volume (PVR) $\leq$100ml, maximum urinary flow rate (Qmax) $\geq$ 5ml/s. After the initial evaluation, all patients were treated with $\alpha$-blocker (tamsulosin 0.2mg/day or doxazosin 4 mg/day) for 2 weeks. After 2 weeks, patients with no symptomatic improvement(OABSS $\geq$ 3), antimuscarinic (solifenacin 5mg/day or tolterodine extended release 4mg/day) was added for an additional 2 weeks. IPSS, OABSS, PVR and Qmax 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 Qmax was 8.8ml/s. After 2 weeks treatment with with $\alpha$-blocker alone, total IPSS was 14, OABSS was 5, PVR was 68ml and Qmax was 11.4ml/s. After another 2 weeks treatment with with $\alpha$-blocker plus antimuscarinic, total IPSS was 11, OABSS was 3, PVR was 72ml and Qmax was 10.8ml/s. Compared with baseline values, total IPSS, OABSS, PVR and Qmax were significant improvement (p<0.05 ) in $\alpha$-blocker monotherapy group and $\alpha$-blocker plus antimuscarinic group. Total IPSS and OABSS scores of $\alpha$-blocker plus antimuscarinic group were lower than $\alpha$-blocker monotherapy group (p<0.05), PVR and Qmax were no differences between two groups. Case of acute urinary retention (AUR) was not found.

Interpretation of results
$\alpha$-blocker is initial therapy in BPH with BOO and can partly improve OAB symptoms. Successful use of $\alpha$-blocker in treating patients with LUTS is based on targeting both prostate $\alpha_1$-ARs and bladder $\alpha_2$-ARs that are important in relieving obstructive and storage symptoms, respectively. $\alpha$-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 + $\alpha$-blocker treatment is generally more effective than monotherapy or placebo in men with OAB, symptoms.

Concluding message
Both of $\alpha$-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 $\alpha$-blocker.

References

Disclosures
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