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Recommendation of α1-adrenoceptor antagonist dose increase therapy (DIT) for men with lower urinary tract symptoms associated with benign prostatic hyperplasia

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ABOUT THE STUDY

For patients with lower urinary tract symptoms associated with benign prostatic hyperplasia (LUTS/BPH), α1-adrenoceptor antagonists remain the first-line treatment of choice. For patients with residual LUTS despite taking α1-adrenoceptor antagonist, combination therapy with additional drugs with different mechanisms is recommended. However, α1-adrenoceptor antagonists Dose Increase Therapy (DIT) is also a good option in selected cases.

DIT is a method of treatment in which a low dose of α1-adrenoceptor antagonist is administered at the time of induction, and the dose is increased when the effect is insufficient. It is also recommended in the package inserts of prescription drugs to start at a low dose. In previous reports, induction of treatment with a low dose of α1-adrenoceptor antagonists has been shown to improve the International Prostate Symptom Score (IPSS) in about 24-78% of the patients. Even in patients with poor improvement at a low dose, increasing the dose has resulted in improvement. If improvement can be achieved at low doses, the risk of adverse events due to the use of maximum dose can be avoided. Since many patients with LUTS/BPH are elderly, concomitant use of other drugs could lead to polypharmacy problems. Therefore, it is better to administer as few drugs as possible.

Prostate enlargement, commonly known as Benign Prostatic Hyperplasia (BPH), is a noncancerous increase in the size of the prostate gland. Frequent urination, difficulty starting to urinate, a weak stream, inability to urinate, or lack of bladder control are all possible symptoms. Urinary tract infections, bladder stones and chronic kidney disease are the possible complications.

Regarding the combination of α1-adrenoceptor antagonist and other drugs, the add-on of anticholinergics to α1-adrenoceptor antagonist is a good option for patients with persistent overactive bladder symptoms. However, judicious use of anticholinergics is recommended because there are reports of increased residual urine volume, decreased maximum urine flow rate and increased risk of acute urinary retention after the use of anticholinergics in men with BPH. Combination therapy with β3-adrenoceptor agonist is also indicated for patients with poor improvement of storage urinary symptoms after α1-adrenoceptor antagonist monotherapy. Although not as common as combination therapy with anticholinergics, side effects of combination therapy with β3-adrenoceptor agonist have been reported. Some reports suggest that DIT also increases side effects, while other reports suggest no increase of side effects.

Regarding 5α-reductase inhibitor, if there is an enlarged prostate (more than 30 ml), there is a great benefit of concomitant use of α1-adrenoceptor antagonist and

5α-reductase inhibitor. For patients with a large prostate, induction of treatment with a low dose of α1-adrenoceptor antagonist is less effective. On the other hand, if prostatic volume is less than 30-40 ml, there is no recommendation for concomitant use of 5α-reductase inhibitor, and a low dose of α1-adrenoceptor antagonist could provide significant benefits including symptom improvement).

In conclusion, if the patient with LUTS/BPH is elderly and does not have a large prostate, a low dose of α1-adrenoceptor antagonist can be an initial treatment of choice. If voiding urinary symptoms persist after induction, increasing dose of the same α1-adrenoceptor antagonist (DIT) will be recommended.