

1. Asan Medical Center, University of Ulsan College of Medicine, 2. Samsung Medical Center, Sungkyunkwan University School of Medicine, 3. Keimyung University School of Medicine, Daegu, Korea, 4. College of Medicine, Korea University, Seoul, Korea, 5. College of Medicine, Daegu Catholic University, Daegu, Korea, 6. Pusan National University School of Medicine, Busan, Korea, 7. Inha University College of Medicine, Incheon, Korea, 8. Chonnam National University Medical School, Gwangju, Korea, 9. Chungnam National University College of Medicine, Daejeon, Korea

## EFFICACY OF SOLIFENACIN SUCCINATE FOR FREQUENT MICTURITION PATIENTS WITH OR WITHOUT URGENCY: A MULTICENTER PROSPECTIVE RANDOMIZED COMPARATIVE STUDY

### Hypothesis / aims of study

The overactive bladder (OAB) is defined as urgency with or without urgency incontinence, usually with frequency and nocturia. Urgency is the key symptom of OAB and the cause of frequency (1). But patients reported that the most troublesome OAB symptom was daytime frequency (2). Since some of patients might not complain their urgency because of difficulty in expressing it or urinate frequently before they feel urgency. So we assumed that antimuscarinic drug could be effective for frequency without urgency as well as frequency with urgency. We compared the efficacy of solifenacin between patients complaining frequent micturition without urgency and with urgency.

### Study design, materials and methods

This study is a multi-center, 12-week, open label, comparative study and non-inferior study based on the hypothesis, "The efficacy of solifenacin for frequency is non-inferior to that of solifenacin for frequency with urgency". We enrolled the patients with frequency of micturition >8 voids/day without urgency in group 1 and the patients with frequency of micturition >8 voids/day with urgency (urgency grade  $\geq 3$  (5 scales) &  $\geq 2$ /day) in group 2. The primary efficacy variable was the mean change of daily micturition frequency from baseline and secondary efficacy variables included the changes in PPBC (Patients' Perception of Bladder Condition), OABSS (OAB Symptom Score) and BSW (Benefit, Satisfaction, Willingness to continue) questionnaires at the end of treatment. Safety was evaluated by adverse events, maximal urinary flow rate (MFR) and post-void residual (PVR).

### Results

Of 286 patients enrolled, 240 (83.9%) completed the study (group 1: 115, group 2: 125). The mean change of daily micturition frequency were  $-1.9 \pm 3.0$  in group 1 and  $-2.4 \pm 3.2$  in group 2 ( $p=0.176$ ). There was no significant difference between two groups in terms of frequency reduction. But, the lower limit of confidence interval set were  $-1.33$  and  $-1.80$ , respectively and didn't met the predetermined non-inferiority limit ( $-0.8$ ). There was no significant difference between the portions of patients who improved in PPBC (group 1:85.7%, group 2:74.6%,  $p=0.23$ ). The portion of patients who improved to mild grade from moderate or severe grade in OABSS was higher in group 1 than group 2 (group 1:88%, group 2: 62.8%,  $p=0.016$ ). There was no significant difference in BSW questionnaire at the end of treatment. MFR decreased (group 1:  $-1.4 \pm 11.3$ , group 2:  $-0.11 \pm 10.3$ ,  $p=0.216$ ) and PVR increased (group 1:  $5.5 \pm 32.1$ , group 2:  $9.3 \pm 44.1$ ,  $p=0.341$ ) in both groups. Solifenacin was well tolerated in both Groups.

### Interpretation of results

After 12 weeks of solifenacin treatment, there was no significant difference in change of daily micturition frequency between patients complaining frequent micturition without urgency and with urgency. However, we couldn't verify that the efficacy of solifenacin for frequency without urgency is non-inferior to that of solifenacin for OAB because didn't met the predetermined non-inferiority limit

### Concluding message

Solifenacin was effective for frequency without urgency as well as frequency with urgency. However, we couldn't verify that the efficacy of solifenacin for frequency without urgency is non-inferior to that of solifenacin for frequency with urgency, i.e. OAB.

### References

1. Abrams P, Cardozo L, Fall M et al. The standardisation of terminology of lower urinary tract function: report from the standardisation sub-committee of the international continence society. *Neurourol Urodyn* 2002;21:167-78
2. Choo MS, Lee JZ, Lee JB et al. Efficacy and safety of solifenacin succinate in Korean patients with overactive bladder: a randomised, prospective, double-blind, multicentre study. *Int J Clin Pract* 2006;62:1675-83

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| <b>Specify source of funding or grant</b>                             | Astellas, Korea                                |
| <b>Is this a clinical trial?</b>                                      | Yes  |
| <b>Is this study registered in a public clinical trials registry?</b> | Yes  |
| <b>Specify Name of Public Registry, Registration Number</b>           | Clinicaltrials.gov, NCT00979472                |
| <b>Is this a Randomised Controlled Trial (RCT)?</b>                   | No   |
| <b>What were the subjects in the study?</b>                           | HUMAN  |
| <b>Was this study approved by an ethics committee?</b>                | Yes  |
| <b>Specify Name of Ethics Committee</b>                               | Asan Medical Center institutional review board |
| <b>Was the Declaration of Helsinki followed?</b>                      | Yes  |
| <b>Was informed consent obtained from the patients?</b>               | Yes  |