Efficacy of additional solifenacin succinate therapy for storage symptoms in female with uncomplicated lower urinary tract infection: the solution randomized controlled trial

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ABSTRACT
Background: urinary tract infection (UTI) is often treated in daily practice as overactive bladder (OAB) by giving anticholinergic, the recommended treatment options of OAB. However, anticholinergic application for UTI symptoms relief has never been investigated. To our knowledge, this study was the first randomized trial which investigate anticholinergic use for UTI treatment. This study aimed to evaluate whether additional anticholinergic is beneficial alongside an empiric antibiotic therapy in reducing symptoms and tolerable for females with uncomplicated UTI. Methods: this was a randomized double-blind controlled trial that included female aged >18 y.o with uncomplicated lower UTI. Patients were randomly assigned to either solifenacin succinate 5 mg (group 1) or placebo (group 2) in addition to empiric levofloxacin 500 mg treatment for 3 days. Those with structural and/or functional abnormalities of the urinary tract and allergic reaction history were excluded. We observed changes in overactive bladder symptom score (OABSS), patient perception of bladder condition (PPBC) score, patient-reported symptoms and adverse events. Results: a total of 126 patients, 63 for each group, initiated the trial with median age of 44 (19-67) y.o. There were no differences of age, OABSS, and PPBC score between the 2 groups at baseline. We found significant ($p<0.05$) reduction of OABSS and PPBC score in both groups at the end of therapy; however the amount of reduction were not different between groups. In group 1 we found 22.2% of patients complained of dry mouth and 25.4%, 4.7%, 3.2% of patients complained of nausea, somnolence and constipation respectively. In group 2 we found 20.0%, 21.7% and 3.3% patients who complained of dry mouth, nausea, and somnolence respectively. One patient in group 2 experienced allergic reaction and was dropped out. Conclusion: we found no significant difference in OABSS and PPBC score reduction by adding anticholinergic to antibiotic therapy for females with uncomplicated UTI. There was no serious adverse event recorded.