



Translational Research in Urology

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Editorial

Efficacy of Additional Solifenacin Succinate Therapy in Females with Urinary Tract Infection

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HIGHLIGHTS

- UTI can have consequences like kidney infection, infections of the urinary tract, and toxic septicemia.
- UTI is often confused with wide-spectrum antibiotics.

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ABSTRACT

Urinary tract infection (UTI) is a collective word for diseases involving any portion of the urinary tract and it's the most common infection in local primary care that has suffered from it by up to 60 percent of females and has at least one symptomatic UTI in a lifetime. UTI can have consequences like a kidney infection, infections of the urinary tract, and eventually, toxic septicemia. UTI is often confused with wide-spectrum antibiotics, so it is imperative to characterize resistance patterns to enhance in-vitro antibiotic strategies. According to previous studies, the use of anticholinergics to relieve UTI symptoms has never been investigated. This research is the first randomized trial of anticholinergic like solifenacin succinate (with a strong affinity for smooth muscle receptors M3) to be used to treat and improve UTI.

Keywords: Solifenacin Succinate; Female; Urinary Tract Infection

Editorial: Urinary tract infection (UTI) is a collective word for diseases involving any portion of the urinary tract and it's the most common infection in local primary care that has suffered from it by up to 60 percent of females and has at least one symptomatic UTI in a lifetime. UTI happens in both sexes, but for anatomical, hormonal, and pregnancy reasons is more prevalent in females (1). UTI can have consequences like kidney infection, infections of the urinary tract, and eventually, toxic septicemia. Increasing drug resistance has made it essential in the experimental field to assess the pattern of antibiotic resistance (2, 3). UTI is often confused with wide-spectrum antibiotics, so it is imperative to characterize resistance patterns to enhance in-vitro antibiotic strategies (4, 5). According to previous studies and research, the use of anticholinergics to relieve UTI symptoms has never been investigated. This research is the first randomized trial of anticholinergic like solifenacin succinate, with a strong affinity for smooth muscle receptors M3, to be used to treat and improve UTI (6-8).

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Rahardjo HE et al., proposed anticholinergics in the therapy of low-grade UTI as a therapeutic adjuvant for experimental antibiotics. Due to its impact on decreasing storage symptoms in patients with overactive bladder (OAB), anticholinergics were selected (9).

In the current investigation, patients in two groups (solifenacin succinate and levofloxacin) and (placebo and levofloxacin) demonstrated (p -value <0.05) a decrease in patient perception of bladder condition (PPBC) score and overactive bladder symptom score (OABSS) from start to end of therapy (7, 9), and a significant reduction in daily micturition frequency in UTI patients (10).

So, solifenacin succinate has made patients with OAB have a better understanding of their bladder symptoms and quality of life. Five mg solifenacin provides dose titration within 4-6 weeks of therapy and this may increase the efficacy of treatment and provide optimal control of OAB (11). Eventually, it was suggested that solifenacin succinate at standard doses can be an effective and safe means of handling patients' symptoms of overactive relapse after UTI (12).

On the other hand, a recent study showed that the adding of solifenacin succinate to levofloxacin compared to experimental therapy with levofloxacin alone in UTI patients showed no significant signs compared to a reduction in OABSS and PPBC scores (9).

Authors' contributions

BN was responsible for study conception. AM wrote the manuscript.

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Conflict of interest

All authors claim that there is no competing interest.

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Ethical statement

Not Applicable.

Data availability

Not Applicable.

Abbreviations

OAB	Overactive bladder
OABSS	Overactive bladder symptom score
PPBC	Patient perception of bladder condition
UTI	Urinary tract infection

References

1. Guglietta A. Recurrent urinary tract infections in women: risk factors, etiology, pathogenesis and prophylaxis. *Future Microbiology*. 2017;12(3):239-46.
2. Gupta K, Hooton TM, Stamm WE. Increasing antimicrobial resistance and the management of uncomplicated community-acquired urinary tract infections. *Annals of internal medicine*. 2001;135(1):41-50.
3. Akram M, Shahid M, Khan AU. Etiology and antibiotic resistance patterns of community-acquired urinary tract infections in JNMC Hospital Aligarh, India. *Annals of clinical microbiology and antimicrobials*. 2007;6(1):4.
4. Roberts KB. Urinary tract infection: clinical practice guideline for the diagnosis and management of the initial UTI in febrile infants and children 2 to 24 months. *Pediatrics*. 2011;128(3):595-610.
5. Geerlings SE. Clinical presentations and epidemiology of urinary tract infections. *Urinary Tract Infections: Molecular Pathogenesis and Clinical Management*. 2017:27-40.
6. Chapple C, Martinez-Garcia R, Selvaggi L, Toozs-Hobson P, Warnack W, Drogendijk T, et al. A comparison of the efficacy and tolerability of solifenacin succinate and extended release tolterodine at treating overactive bladder syndrome: results of the STAR trial. *European urology*. 2005;48(3):464-70.
7. Maniscalco M, Singh-Franco D, Wolowich WR, Torres-Colón R. Solifenacin succinate for the treatment of symptoms of overactive bladder. *Clinical therapeutics*. 2006;28(9):1247-72.
8. Ohtake A, Saitoh C, Yuyama H, Ukai M, Okutsu H, Noguchi Y, et al. Pharmacological characterization of a new antimuscarinic agent, solifenacin succinate, in comparison with other antimuscarinic agents. *Biological and Pharmaceutical Bulletin*. 2007;30(1):54-8.
9. Rahardjo HE, Syahputra FA, Islianti PI, Matondang FA. Efficacy of Additional Solifenacin Succinate Therapy for Storage Symptoms in Females with Uncomplicated Lower Urinary Tract Infection: The SOLUTION Randomized Controlled Trial. *Acta Medica Indonesiana*. 2018;50(3):200-7.
10. Maman K, Aballea S, Nazir J, Desroziars K, Neine M-E, Siddiqui E, et al. Comparative efficacy and safety of medical treatments for the management of overactive bladder: a systematic literature review and mixed treatment comparison. *European urology*. 2014;65(4):755-65.
11. Basra R, Kelleher C. A review of solifenacin in the treatment of urinary incontinence. *Therapeutics and clinical risk management*. 2008;4(1):117.
12. Kosilov KV, Loparev SA, Ivanovskaya MA, Kosilova LV. The efficacy of different doses of solifenacin in elderly patients after treating a urinary tract infection. *Arab journal of urology*. 2015;13(3):203-8.

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