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EFFECTS OF SOLIFENACIN ON DETRUSOR FUNCTION IN CHINESE PATIENTS WITH SYMPTOMATIC OVERACTIVE BLADDER

Hypothesis / aims of study

The effect of solifenacin on the detrusor function in patient with overactive bladder (OAB) accompanying different LUT pathology have been reported in the literature. However, the effects in OAB patient without significant LUT pathology have not been reported. Therefore, the aim of present study was to investigate the effects of solifenacin on the detrusor function in Chinese patients with symptomatic OAB.

Study design, materials and methods

A total of 64 out-patients with symptomatic OAB of 1~5 (2.1 ± 1.95) years, 35 males and 29 females, aged 21-63 (42.9 ± 20.38) years old were included in this study. Five mg solifenacin was given orally once daily for 12 weeks. Before and after medication, filling cystometry urodynamics, three-days voiding diary, overactive bladder symptom score (OABSS), patient perception of bladder condition symptoms rating scale (PPBC) and adverse events (AE) were evaluated.

Results

Before and after treatment, the number of patients who shown detrusor overactivity (DO) are 38 vs 27, and average number of DO wave peak (2.38 ± 1.95) vs (0.86 ± 1.13) ($T=3.6319, P < 0.05$) in female group and (2.35 ± 1.95) vs (0.64 ± 1.33) ($T=6.7924, P < 0.001$) in male group. DO disappeared in 11 patients (4 female and 7 male) after treatment. Bladder capacity in first desire of voiding are (108 ± 67.0) ml vs. (178 ± 79.0) ml ($T=3.6391, P < 0.001$) in female group and (98 ± 66.0) ml vs. (198 ± 89.0) ml ($T=3.7114, P < 0.05$) in male group; MCC are (189 ± 131) ml vs. (297 ± 86.0) ml ($T=2.9162, P < 0.01$) in female group and (178 ± 127) ml vs. (289 ± 79.0) ml ($T=4.3906, P < 0.001$) in male group. Bladder compliance, detrusor pressure at maximum flow rate has no statistical difference ($P > 0.05$). After medicine for 12 weeks, 3 days diary shows voiding times, nocturia, urinary incontinence and pads quantity no statistically significant difference with premedication ($P > 0.05$), while the number of urgency are (27.25 ± 9.71) vs. (17.63 ± 12.80) ($P < 0.05$) and voiding volumes are (127 ± 58.9) vs. (289 ± 157.9) ($P < 0.001$). All patients had significant improvements of OAB symptoms score in OABSS (12.38 ± 2.56) vs. (8.60 ± 4.31) ($T=3.3722, P < 0.01$) and PPBC (5.50 ± 0.53) vs. (2.88 ± 1.64) ($P < 0.001$). Side effect of mild and moderate dry mouth was found in 29.7% and 35.9% in male and female patients, respectively.

Interpretation of results

Solifenacin specially acts on muscarinic-3(M3) receptor. In *in vitro* and *in vivo* studies, solifenacin showed relative selectivity to M3 receptor in the bladder compared with salivary gland tissue. These are demonstrated by present study.

Concluding message

Solifenacin urodynamically decreases the overactivity of detrusor, increases bladder capacity and improves the life quality in most of symptomatic OAB patients.

References

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Is this a clinical trial?	Yes
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Is this a Randomised Controlled Trial (RCT)?	Yes
What were the subjects in the study?	HUMAN
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Was the Declaration of Helsinki followed?	Yes
Was informed consent obtained from the patients?	Yes