

THE RESEARCH OF TREATMENT OPTIONS AND PROGNOSIS'S SIGNIFICANCE OF URINARY ATP QUANTIFICATION AND URODYNAMIC TESTING IN PATIENTS WITH BPH AND OAB

Hypothesis / aims of study

The aim of this study was to investigate the significance of Urinary ATP quantification and urodynamic testing in the patients with BPH combined with OAB.

Study design, materials and methods

The patients were divided into two groups, pure BPH group(58 men) and BPH+OAB group(55 men). The urodynamic testing and urinary ATP quantification were applied in patients before and after treatments. In experimental group, 34 men were treated with surgical operations(severe obstruction), and 21 men were treated with solifenacin and tamsulosin hydrochloride (slight obstruction). The control group was treated with surgical operations. Detrusor histopathological changes were measured by HE stain.

Results

In experimental group, volume at first desire to void(FD) and maximum cystometric capacity(MCC) were smaller, bladder compliance was lesser, decrease of detrusor contractility was more obvious compared to control group ($P<0.05$). The urine ATP before treatment in experimental group were lower than control group ($P<0.05$). The detrusor of experimental group was obviously incoordinated and muscle fiber was in irregular arrangement. Two months after treatment, the urine ATP were decreased, maximum flow rate(Q_{max}) were increased and PVR were decreased both in the two groups ($P<0.05$).

Interpretation of results

The detrusor of the patients with BPH and OAB was impaired more seriously than the ones with simple BPH, and the reduced level of detrusor contractility is positively correlated with the decrease of urinary ATP.

Concluding message

Urinary ATP quantification and urodynamic testing are significant to patients with BPH and OAB, which can be used as a marker of bladder function.

References

1. Arlandis Guzman S, Garcia Matres MJ, Gonzalez Segura D, et al. Prevalence of lower urinary tract symptoms in patients with overactive bladder. Patient management in clinical practice. Actas Urol Esp,2009,33:902-908.
2. Morelli A, Squecco R, Failli P, et al. The vitamin D receptor agonist elocalcitol upregulates L-type calcium channel activity in human and rat bladder J. Am J Physiol Cell Physiol, 2008, 294(5):1206-1214.
3. Kim JC, You JS, Park EY, et al. Muscarinic and purinergic receptor expression in the urothelium of rats with detrusor overactivity induced by bladder outlet obstruction. BJU Int, 2008, 101:371-375.

Disclosures

Funding: research funds of Graduate student **Clinical Trial:** Yes **Public Registry:** No **RCT:** No **Subjects:** HUMAN **Ethics Committee:** the Ethics Committee of Dalian Medical University **Helsinki:** Yes **Informed Consent:** Yes