

URINARY NGF IN OAB AFTER ANTICHOLINERGICS TREATMENT

Hypothesis / aims of study

Nerve growth factor (NGF) is a neuropeptide involved in the proliferation and regulation of growth, and survival of certain target neurons. It is easily identified in urine. In our previous studies, urinary NGF was more expressed in several conditions with bladder irritation.

In this study, we investigated the changes of urinary NGF expression in overactive bladder (OAB) patient depending on anticholinergics treatments responses.

Study design, materials and methods

Subjects were divided into two groups; healthy female without no known urologic problems as a control group (n=52, 50.46±9.98(34~77) years old), and OAB female patients as an OAB group (n=50, 53.2±15.88(24~77) years old).

In OAB group, urine sample was collected from catheterized urine before and two months after the antimuscarinic treatment. Collected urine was centrifuged at 5000rpm then NGF level in the supernatant was measured by ELISA method.

Results

Urinary NGFs were different with statistical significance (pre-treatment OAB 1.57±0.25(1.1~2.19)ng/ml; post-treatment OAB 1.29±0.23(0.9~1.7)ng/ml; control 0.59±0.23(0.06~0.99)ng/ml, p=0.0000, ANOVA). In OAB group, urinary NGF was elevated compared with control group (p=0.000, paired t-test), and it was significantly decreased with antimuscarinics treatment (p=0.0002, paired t-test). Presence of lower abdominal discomfort, pain, frequency, nocturia, urgency, and urinary incontinence did not show any significant correlations between urinary NGF expressions.

Interpretation of results

Urinary NGF is elevated in OAB compared with normal bladder. Anticholinergics treatments lower the urinary NGF.

Concluding message

Urinary NGF changes combined with antimuscarinic treatment may represent the treatment responsibility of OAB. This may provide a prognostic factor of medical treatment in OAB for deciding next step of treatment.

Disclosures

Funding: none **Clinical Trial:** No **Subjects:** HUMAN **Ethics Committee:** Ewha Medical Center Ethics Committee **Helsinki:** Yes **Informed Consent:** Yes