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VOIDING DYSFUNCTION IN PATIENTS WITH NASAL CONGESTION TREATED WITH PSEUDOEPHEDRINE: A PROSPECTIVE STUDY

Hypothesis / aims of study
Pseudoephedrine is a sympathomimetic drug that is widely used as a nasal decongestant, but can also cause adverse effects including voiding dysfunction. However, the risk of developing voiding dysfunction remains uncertain in patients without subjective voiding problems.

Study design, materials and methods
We prospectively enrolled patients with nasal congestion who required treatment with pseudoephedrine in the period from May to August 2015. All of the patients denied concomitant subjective voiding problem. International prostate symptom score (IPSS) questionnaires were used to evaluate voiding function before and one week after pseudoephedrine was taken. The results of IPSS questionnaires were analyzed as a total score (IPSS-T), voiding score (IPSS-V), storage score (IPSS-S), and quality of life due to urinary symptoms (QoL-US).

Results
We enrolled a total of 131 male patients, with a mean age of 42.0±14.3 y. The IPSS-T, IPSS-V, and IPSS-S scores increased slightly after pseudoephedrine was taken (IPSS-T from 6.49 to 6.77, IPSS-V from 3.33 to 3.53, and IPSS-S from 3.17 to 3.24). QoL-US decreased non-significantly from 2.02 to 1.87. Classifying an increased IPSS-T score as subclinical worsening of voiding function, and an unchanged or decreased IPSS-T score as unchanged voiding function, we found that older age and higher pre-medication IPSS-V score yielded significant differences ($p < 0.05$) for subclinical voiding dysfunction and unchanged voiding function. In patients aged 50 y and older, the IPSS-T, IPSS-V, and IPSS-S scores increased significantly after pseudoephedrine was taken (IPSS-T from 9.95 to 11.45, IPSS-V from 5.38 to 6.07, and IPSS-S 4.57 to 5.38), while QoL-US decreased non-significantly from 2.71 to 2.48 ($p = 0.057$). In patients aged less than 50 y, no statistically significant difference was found.

Table1. Pre- and Post-Medication Comparisons of IPSS Scores in Patients Treated with Pseudoephedrine for Nasal Congestion

	Overall (n=131)		Age≥50 y (n=56)		Age<50 y (n=75)	
	Pre-med	Post-med	Pre-med	Pre-med	Post-med	Post-med
IPSS-T score	6.49	6.77	9.95	11.45*	3.91	3.28
IPSS-V score	3.33	3.53	5.38	6.07*	1.80	1.64
IPSS-S score	3.17	3.24	4.57	5.38*	2.12	1.64*
QoL-US score	2.02	1.87	2.71	2.48	1.49	1.41
Patients with elevated post-med IPSS-T score	42/131, 32.1%		29/56, 51.8%		13/75, 17.3%	

* $p<0.05$

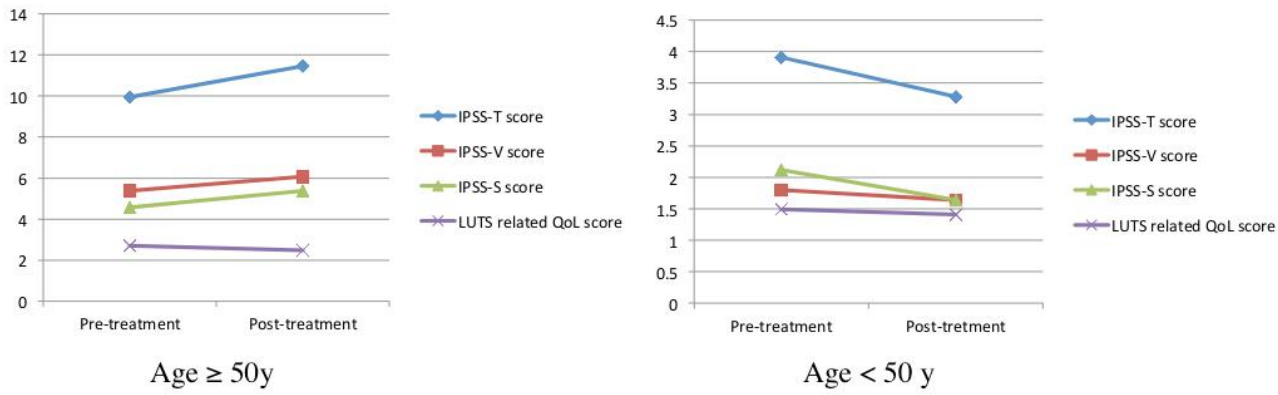

Figure 1. Changes in IPSS scores after treatment with pseudoephedrine for nasal congestion stratified by age.

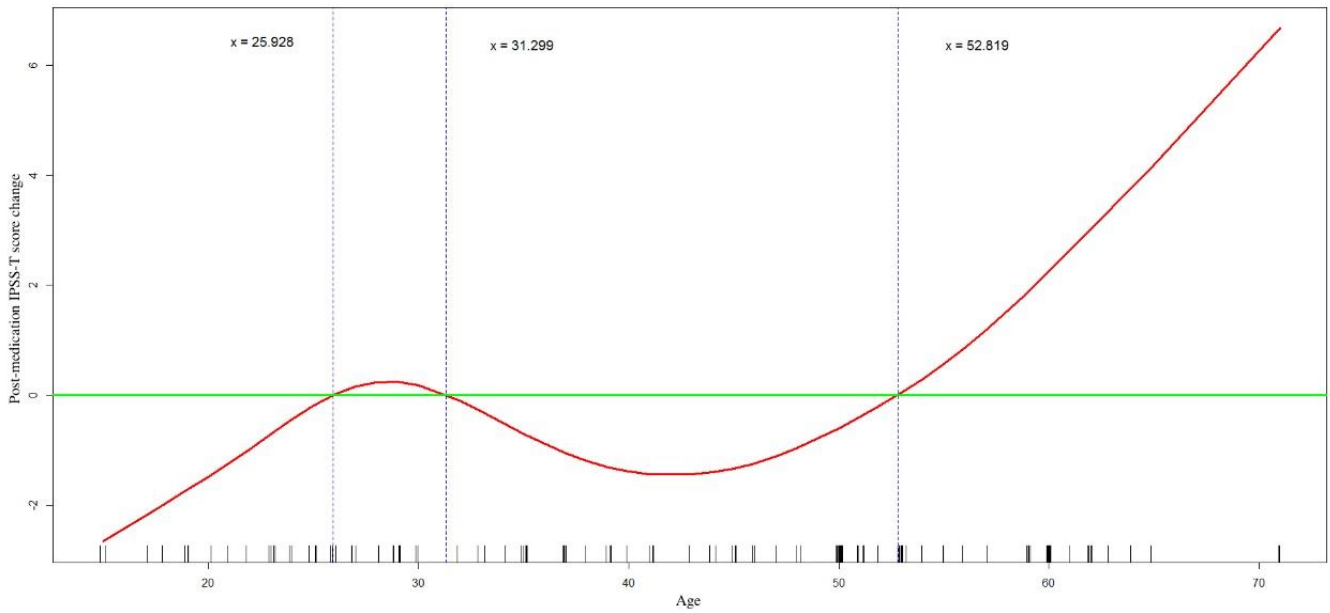

Figure 2. Generalized additive model (GAM) plot for IPSS-T score change after taking pseudoephedrine versus age

Interpretation of results

There was no significant increase in IPSS-T or IPSS-V scores with overall group. However, among patients older than 50 y, there was significant increase in IPSS-T and IPSS V scores, even without self-reported voiding dysfunction.

Concluding message

Pseudoephedrine treatment for nasal congestion requires extra precautions in male patients older than 50 y even those without subjective voiding symptoms.

Disclosures

Funding: None **Clinical Trial:** No **Subjects:** HUMAN **Ethics Committee:** The Institutional Review Board of Chang Gung Memorial Hospital **Helsinki:** Yes **Informed Consent:** Yes