The impact of clinically significant depressive symptoms on lower urinary tract symptoms (LUTS) in an elderly Korean population: results from the Korean longitudinal study on health and aging (KLoSHA)

Hypothesis / aims of study
We conducted this study to evaluate the impact of clinically significant depressive symptoms on lower urinary tract symptoms (LUTS) in elderly Korean men aged 65 and above.

Study design, materials and methods
This study was conducted as a part of the Korean Longitudinal Study on Health and Aging (KLoSHA). A study population of 1118 Korean elders was randomly sampled from residents of Seongnam, Korea aged 65 years or older. Standardized face-to-face interviews and neurological and physical examinations were conducted on 714 respondents using the Korean version of Mini International Neuropsychiatric Interview. Depression was diagnosed according to the DSM-IV criteria and LUTS was evaluated with IPSS. A case-control analysis was performed, comparing subjects with clinically relevant depressive symptoms (cases) to those without depressive symptoms (controls) and calculated the odds ratio to have moderate or severe LUTS when depression is present by multivariate analysis.

Results
Overall mean age of subjects was 76 (range 64-96) and prevalence of depression was 6.8%. Between depression group and no depression group, there is no difference of age and prostate volume. But IPSS was higher in depression group (17±10 vs 12±9, p=0.004). In multiple analyses adjusting for all factors that were shown to be significantly associated with having clinically relevant depressive symptoms, having moderate to severe LUTS was significantly associated with increased odds of having clinically relevant depressive symptoms even after adjustment (Table 1).

Interpretation of results
In elderly men, depressive symptoms are associated with increased risk of having moderate to severe LUTS.

Concluding message
Physicians should consider the LUTS status of their patients who have clinically relevant depressive symptoms.

Table 1. Associations with Lower Urinary Tract Symptoms and Major Depressive Disorder

<table>
<thead>
<tr>
<th>Lower urinary tract symptoms</th>
<th>Age-adjusted OR(95% CI)</th>
<th>Multivariate adjusted OR(95% CI)a</th>
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</thead>
<tbody>
<tr>
<td>Mild</td>
<td>1.0</td>
<td>1.0</td>
</tr>
<tr>
<td>Moderate</td>
<td>2.68(0.82-8.80)</td>
<td>2.71(0.77-9.57)</td>
</tr>
<tr>
<td>Severe</td>
<td>4.58(1.35-15.56)</td>
<td>5.42(1.46-20.21)</td>
</tr>
<tr>
<td>P Value for trend</td>
<td>0.012</td>
<td>0.010</td>
</tr>
</tbody>
</table>

a: Adjusted for age, education, monthly income, marital status, cardiovascular disease, stroke, hypertension, diabetes mellitus, current drinking, smoking status, body mass index, and mini-mental status examination.

Specify source of funding or grant
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Is this a clinical trial? No

What were the subjects in the study? HUMAN

Was this study approved by an ethics committee? Yes

Specify Name of Ethics Committee
The institutional review board of Seoul National University Bundang Hospital

Was the Declaration of Helsinki followed? Yes

Was informed consent obtained from the patients? Yes