FALLS AND LOCOMOTIVE SYNDROME IS THE MAJOR RISK FACTOR FOR OVERACTIVE BLADDER

Hypothesis / aims of study
A large population-based, cross-sectional internet-based survey was conducted in Japan to evaluate the impact of work productivity and physical functioning on overactive bladder/lower urinary tract symptom (OAB/LUTS) and to estimate the relationship between OAB and Locomotive syndrome.

Study design, materials and methods
A total of 2,064 Japanese males and females aged over 40 years were recruited from the large inter-net research company (MICROMIL) in 2014. Exclusion criteria were the patients with medication usage for LUTS/OAB/BPH, the patients with cognitive impairment, POP, and/or walking impairment. Informed consent was obtained from all research participants via internet. The survey consisted of validated questionnaires, items used in prior epidemiologic research, and questions developed for the study. Participants were asked to complete questionnaires via internet. Symptoms of OAB/LUTS were evaluated by the International Prostate Symptom Score-quality of life (IPSS), overactive bladder symptom score (OABSS) and IPSS-quality of life (IPSS-QOL).

Results
Prevalence of OAB, falls and bone fracture caused by falls
Among the total 2,064 participants analysed, the prevalence of OAB which met the criteria described in the Japanese clinical guidelines was 13.9 % (16.2 % in males and 11.6% in females, respectively) and the prevalence of locomotive syndrome was 6.7% (5.7% in males and 7.7% in females, respectively). The prevalence of self-reported any falls during the five-year period, and bone fracture caused by any falls during the five-year period was 19.9% (17.7% in males and 22.1% in females, respectively) and 5.4% (4.3% in males and 6.5% in females, respectively), respectively.

Relationship between falls, bone fracture caused by falls and OAB
Among all responders, the degree of OAB symptom severity was related to the prevalence of falls and the total score of questionnaire about fall risk was increased as the severity of OAB symptom increased. Females with OAB were associated with bone fracture caused by falls significantly. Males with OAB were not associated with bone fracture caused by falls significantly, however, in males, compared with OABSS total-score, males with moderate-to-severe OAB were associated with bone fracture caused by falls significantly.

Risk factors associated by OAB
Whereas univariate and multivariate analysis demonstrated that males, elders, metabolic syndrome, fall, and locomotive syndrome were a risk factor for OAB, the highest odds ratio among them was locomotive syndrome (OR:2.2248, p=0.0003).

### Table: Effector for OAB

<table>
<thead>
<tr>
<th>Effector</th>
<th>Univariate analysis</th>
<th>Multivariate analysis</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>OR</td>
<td>p-value</td>
</tr>
<tr>
<td>Sex; men</td>
<td>1.4672</td>
<td>0.0027</td>
</tr>
<tr>
<td>Age; elders&gt;65 yr</td>
<td>1.7742</td>
<td>&lt;.0001</td>
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<tr>
<td>Metts; +</td>
<td>1.7979</td>
<td>0.0002</td>
</tr>
<tr>
<td>Obesity; +</td>
<td>1.4525</td>
<td>0.0134</td>
</tr>
<tr>
<td>Fall; +</td>
<td>1.7241</td>
<td>0.0003</td>
</tr>
<tr>
<td>Fracture due to Fall</td>
<td>2.2064</td>
<td>0.0011</td>
</tr>
<tr>
<td>Locomo; +</td>
<td>2.9184</td>
<td>&lt;.0001</td>
</tr>
</tbody>
</table>

Fig. 1 Uni-, and Multivariate analysis of risk factors for OAB
Interpretation of results
This is the first study to investigate the relationship between OAB and locomotive syndrome among males and females over 40 years in Japan. The strength of this study is that it used validated questions about LUTS/OAB, physical activity, and locomotive syndrome.

Concluding message
Our epidemiological study demonstrated that falls and locomotive syndrome is the major risk factor for overactive bladder. More research is needed to elucidate whether prevention of locomotive syndrome and physical activity provides OAB/LUTS benefits.

Disclosures
Funding: none  
Clinical Trial: Yes  
Public Registry: No  
RCT: No  
Subjects: HUMAN  
Ethics not Req'd: this study is a pilot study for more detailed and larger study.  
Helsinki: Yes  
Informed Consent: Yes