

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). Symptoms about physical activity, physical functioning was evaluated by the LOCO check 5 and other Japanese questions developed for the evaluation for physical functioning. The questionnaire also included items to record the age, sex, history of 11 particular medical diseases, episodes of falls and fractures caused by the falls at night or during daytime. We also compared the scores on the three QOL measures between subjects diagnosed without OAB, with mild OAB and with moderate to severe OAB. Primary outcome measures: the relationship between OAB and self-reported bone fracture caused by falls and that between OAB and locomotive syndrome.

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).

	Effector for OAB						logistic test
	Univariate analysis			Multivariate analysis			
	OR	p-value	95% CI	OR	p-value	95% CI	
Sex; men	1.4672	0.0027	1.1413-1.8912	1.497	0.0025	1.1524 -1.9504	
Age; elders>65 yr	1.7742	<.0001	1.3802-2.2807	1.6974	<.0001	1.3081 - 2.202	
Mets; +	1.7979	0.0002	1.3244-2.4175	1.657	0.0163	1.0982 -2.4892	
Obesity; +	1.4525	0.0134	1.0821-1.9322	1.0148	0.9413	0.6814 -1.4924	
Fall; +	1.7241	0.0003	1.2933-2.2815	1.5229	0.0075	1.1209 -2.0522	
Fracture due to Fall	2.2064	0.0011	1.3883-3.4115	1.5115	0.1018	0.9191 -2.4201	
Locomo; +	2.9184	<.0001	1.9602-4.2789	2.2248	0.0003	1.4619 -3.3348	

Fig. 1 Uni-, and Multivariate analysis of risk factors for OAB

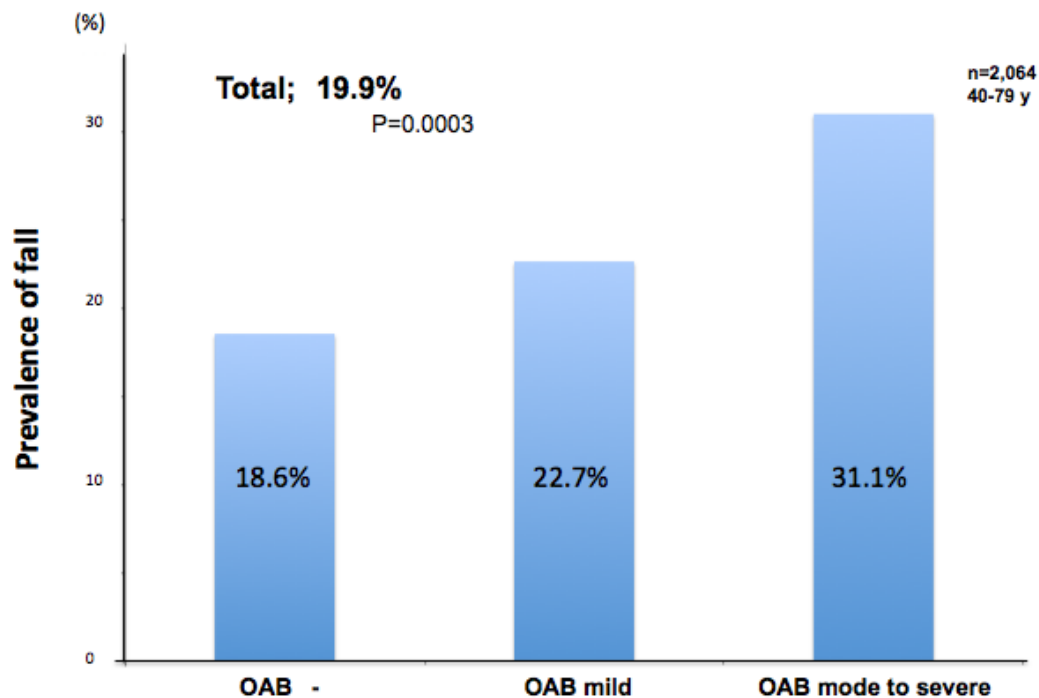


Fig.2 Relationship between OAB symptom severity and fall

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