

LOWER URINARY TRACT SYMPTOMS AND RISK OF FALLS IN COMMUNITY-DWELLING OLDER MEN

Hypothesis / aims of study

Lower urinary tract symptoms (LUTS) such as incontinence, urgency, and nocturia have been established as risk factors for falls from studies exclusively or predominantly of women (1). The pathophysiology of LUTS in men, however, is different to that in women because of different anatomy. Although some studies in women showed that only urgency incontinence is associated with falls but not the other types of incontinence, there is no data on types of incontinence and falls risk in men. The aim of our study was to determine the associations of LUTS with one or more falls (any fall) and two or more falls (recurrent falls) prospectively in a representative sample of community-dwelling older men.

Table 1. Associations of urinary symptoms with risk of falls in one year

Multivariate RR (95% CI)		Any fall* (n=248)	Recurrent falls† (n=99)
Frequency	Never	1.00	1.00
	<1/2 the time	1.49 (1.07-2.07)	1.85 (1.11-3.09)
	≥1/2 the time	1.11 (0.73-1.68)	0.92 (0.46-1.84)
Urgency	Never	1.00	1.00
	<1/2 the time	1.43 (1.04-1.98)	1.33 (0.79-2.22)
	≥1/2 the time	1.83 (1.26-2.65)	1.79 (1.02-3.13)
Nocturia	0-1 time	1.00	1.00
	2-3 times	1.17 (0.87-1.58)	1.11 (0.69-1.78)
	≥4 times	1.30 (0.81-2.10)	1.38 (0.68-2.81)
Incontinence by type	No incontinence	1.00	1.00
	Stress, other	0.80 (0.43-1.51)	0.14 (0.02-1.06)
	Urgency, mixed	1.54 (0.97-2.45)	2.41 (1.33-4.39)
OAB by type	No OAB	1.00	1.00
	OAB dry	1.50 (1.01-2.24)	1.18 (0.61-2.28)
	OAB wet	1.68 (1.06-2.67)	2.66 (1.45-4.87)
IPSS-S‡	Mild	1.00	1.00
	Intermediate	1.91 (1.40-2.60)	1.96 (1.20-3.22)
	High	1.71 (1.09-2.70)	2.10 (1.09-4.05)

Notes: RR=relative risk; CI=confidence interval.

*For any fall, adjustment was made for age, walking aid use, and antihypertensive agent use. †For recurrent falls, adjustment was made for age, walking aid use, dizziness, and poor vision. ‡IPSS-S was categorized into mild (0-3), intermediate (4-8) and high (9-15).

Study design, materials and methods

Our study involves a representative sample of 1705 community-dwelling men aged 70 and older in a defined geographic region in metropolitan Australia. Demographic characteristics, medical and physical conditions, symptoms, and medication use were assessed by questionnaire and clinical examination at baseline. Men were followed up for occurrence of falls for a year by four-monthly phone calls.

For the purpose of this study, LUTS were assessed using the International Prostate Symptom Score (IPSS) and incontinence was assessed using the International Consultation on Incontinence Questionnaire (ICIQ). OAB was defined according to the 2002 consensus; 'OAB wet' as urgency incontinence (>weekly) with or without urgency (≥1/2 the time), 'OAB dry' as urgency without urgency incontinence, and 'no OAB' as having neither urgency nor incontinence. The storage subscore of IPSS (IPSS-S) was calculated as sum of questions number two, four, and seven (frequency, urgency, and nocturia).

Using logistic regression, each symptom was assessed for associations with any fall and recurrent falls adjusting for potential confounders that have previously been associated with risk of falls. Men with neurological diseases (stroke, Parkinson's disease, and epilepsy), poor mobility, and dementia at baseline were excluded in the analysis.

Results

Of the 1401 men without neurological diseases, poor mobility, and dementia at baseline and were followed up for a year, 248 had a single fall and 99 had recurrent falls in a year.

Interpretation of results

Men with OAB wet were at increased risk of any fall and recurrent falls. OAB dry was a risk factor for any fall but not recurrent falls. Urgency/mixed incontinence was associated with recurrent falls, but other types of incontinence (stress and other) were not associated with falls. Intermediate to high storage subscore of IPSS was associated with any fall and recurrent falls.

Concluding message

OAB especially those with urgency incontinence is a risk factor for falls in older men. This is consistent with the findings that higher storage subscores on IPSS is also associated with increased risk of falls. Intervention studies on OAB in older men should consider evaluating whether improving these symptoms decreases the risk of falls.

References

1. Chiarelli PM, Mackenzie LA, Osmotherly, PG. Urinary incontinence is associated with an increase in falls: a systematic review. Australian Journal of Physiotherapy. 2009;55:89-95.

Disclosures

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