

Predicting the risk of institutionalization by walking capacity and lean body mass in elderly hip fracture patients: Evidence from a Swedish Registry Based Study

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Background

Less than half of patients who suffer a hip fracture regain the level of function that they had prior to the fracture. Losing independence is a main concern for hip fracture patients, and particularly not being able to return home. Given the large impact on quality of life by loss of independence and the high risk for institutionalization after hip fracture, it is of importance to identify modifiable risk factors for such negative outcomes. This study aimed to investigate the association between two such factors, i.e. lean body mass and walking capacity, and the risk of institutionalization in previously independent living older people who suffer a hip fracture.

Methods

A study was conducted using Swedish national-based population registers. Patients ≥ 60 years with a hip fracture during 2008–2017 were included from the Swedish National Hip Fracture Registry (RIKSHÖFT). Additional data was retrieved from four national registers. Institutionalization was defined as the change from living in own housing to living permanently in special forms of housing. Main explanatory variables were walking ability recovery and estimated lean body mass. Risk of institutionalization over the one-year period following a hip fracture was analyzed using logistic regression analyses adjusted for potential predictors and characteristics.

Results

In total, 11 265 patients were included. Over the first year, 8% (95% CI: 8–9) of the patients with a hip fracture had lost independence, increasing to 15% (95% CI: 14–16) after 5 years. Walking ability recovery had a clear impact on the risk of becoming institutionalized. Poor recovery of walking ability (Table 1) was associated with a higher odds ratio of losing independence compared with good recovery (OR 12.0; 95% CI 7.8–18.4; $p < 0.001$). Having a higher estimated LBM than 45 kg at index was associated with lower odds of losing independence.

Walking ability	Mean estimated LBM	95% CI
Good recovery	48.9	(48.6–49.2)
Moderate recovery	46.8	(46.5–47)
Poor recovery	46.1	(45.9–46.3)

Table 1 Mean estimated lean body mass by walking ability category (recovery)

Conclusion

Maintaining lean body mass and mobility after a hip fracture lower the risk for being institutionalized. This is likely important from an individual as well as public health perspective.



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