



Commentary

A History of Falls Should Be Recorded in All Preoperative Patients



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Simple low energy falls are a leading cause of morbidity and mortality among the elderly (65 years and older) population. The number of falls is increasing in the Western world due to the increasing elderly population, which has a significant burden upon healthcare services with falls costing in excess of \$30 billion annually in the US when adjusting for inflation (Stevens et al., 2006). In addition the rate of fall induced mortality is also increasing, especially among elderly men (Kannus et al., 2005). Approximately one out of five falls result in a significant injury (Alexander et al., 1992), and falls are the predominant mechanism of elderly trauma admissions requiring operative intervention (Clement et al., 2012). Postoperative falls occur more often than falls in the general population (O'Loughlin et al., 1993). Hence, it would seem that elderly patients requiring surgery to address injuries from their simple low energy fall are more likely to fall again resulting in further morbidity and increased mortality. In the face of this growing problem there is limited literature identifying patients at risk of falls, where preventative measures could be targeted to prevent further falls and the associated consequences.

In this issue of *EBioMedicine*, Kronzer and colleagues (Kronzer et al., 2016) address the deficiency in the current literature, describing the demographics and risk factors for falls in postoperative patients. In addition, they also found preoperative falls to predict postoperative functional decline and surgical complications. They conducted a prospective study of 7982 unselected patients undergoing elective surgery from various specialities. A high rate of falls during hospitalization (1%), after discharge at thirty days (10%), and between thirty days and one year (29%) postoperatively was demonstrated. The rate of postoperative falls was also illustrated to vary according to speciality, with the highest rates being observed in neurosurgical and orthopaedic patients. Although not surprising the main risk factor for postoperative falls was patients declaring that they had falls preoperatively. The authors further clarify the risk of postoperative falls was greater in relation to increasing

number of preoperative falls. Furthermore, they found those patients with a higher rate of preoperative falls demonstrated postoperative functional decline and a greater rate of surgical complications, which is an original finding of their study. Interestingly, these findings were observed for all age groups and not exclusively in elderly patients. The concluding message from the study is that “a history of falls before surgery is a useful tool that should be incorporated into routine preoperative assessment”.

This simple message of assessing the fall status in all preoperative patients will hopefully be adopted in daily clinical practice. Early identification of patients at risk of postoperative falls may enable preventative measures to be implemented before surgery to decrease the risk of postoperative falls and the secondary associated morbidity and mortality. Falls services have been widely introduced throughout the National Health Service in the UK, however there is marked differences in the assessment and delivery according to region (Lamb et al., 2008). A systematic review of the current evidence assessed 159 trials reporting differing falls prevention strategies (Gillespie et al., 2012). They found exercise programs, especially those focusing on personalised gait strength and balance retraining, were effective in decreasing the rate of falls by up to 25%. There are limitations of such exercise interventions with adherence and whether they are a cost-effective strategy. Currently there is a multicentre randomised controlled trial being carried out to address these limitations (Bruce et al., 2016).

There is limited data, if any, reporting the association of preoperative falls with functional decline and surgical complications. This would seem to be an area of significant importance in predicting the outcome of surgical interventions. From an orthopaedic aspect this single risk factor, of preoperative falls, if addressed may help improve the outcome of patients for example after total hip and knee replacements. At the very least to inform patients as part of the consent process who declare they are having falls that they may be at an increased risk of postoperative complications and may not achieve full functional benefit from their surgery. However, the paper by Kronzer et al. (Kronzer et al., 2016) does not break each surgical speciality down and report the functional outcome/decline or the specific associated complications. This may be the next step for future research to assess the independent effect of preoperative falls on the patient reported outcomes after surgery, for example after total hip and knee replacement, and the risk of postoperative complications (infection, fracture, etc.). Once this was established then the next step may be to assess whether preoperative interventions, such as physiotherapy, exercise programs, and/or medical optimisation, could improve the outcomes of the “at risk” patient.

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Kronzer and colleagues (Kronzer et al., 2016) should be congratulated on their original work, which will hopefully result in preoperative fall assessment becoming part routine clinical practice. This does however seem to be the beginning of a long line of investigation which may ultimately decrease the risk of postoperative falls and improve the surgical outcome of “at risk” patients.

Disclosure

The author declared no conflicts of interest.

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