Initiation of Antidepressant Medication After Hip Fracture in Community-Dwelling Older Adults

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Objective: *To evaluate the incidence, characteristics, and correlates of antidepressant drug therapy initiation among community-dwelling older adults following hip fracture.* **Design:** *Retrospective cohort study using linked, population-based administrative data.* **Setting:** *Province of Ontario, Canada.* **Participants:** *Older adults, aged 65 years or older, with a hip fracture and hip fracture surgery between April 1, 2003, and February 28, 2011. The study sample was restricted to individuals who returned home following surgery and who had not been dispensed an antidepressant in the year prior to their fracture (N = 25,436).* **Measurements:** *We determined the incidence of new antidepressant use defined by the dispensing of antidepressant drug therapy within 90 days of discharge home. We identified independent correlates of antidepressant initiation using multivariate regression.* **Results:** *Overall, antidepressants were newly initiated in 8.8% of older adults with hip fracture in the 90 days following hospital discharge. There was a statistically significant, 1.3-fold increase in incidence of antidepressant prescribing from 2003 to 2010. Trazodone, frequently prescribed at a low dose, accounted for 39.0% of newly dispensed antidepressants, followed by selective serotonin reuptake inhibitors (36.9%). Rehabilitation admission, psychiatric evaluation, a diagnosis of dementia, and baseline benzodiazepine use were the strongest independent correlates of antidepressant initiation.* **Conclusion:** *The period after a hip fracture is associated with a high rate of initiation of antidepressant therapy. The data raise the possibility that antidepressants are frequently prescribed off-label in these patients. Further research is needed to investigate the safety and efficacy of antidepressant use in this vulnerable population.* (Am J Geriatr Psychiatry 2015; 23:1007–1015)

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Older adults with a hip fracture are a particularly vulnerable population. They face a high rate of medical complications,[1,2] an increased risk of falls and repeat fractures,[3] and a one-year mortality rate as high as 20%.[4,5] As many as 50% do not return to their previous level of function,[6,7] and 17% are admitted to a long-term care home within one year.[8] The physical and psychological stress associated with a hip fracture place older adults at increased risk for depression.[9–11] Persistent depressive symptoms after hip fracture may contribute to disability, an increased rate of institutionalization, and increased mortality.[12–14]

The efficacy and safety of antidepressant medications in treating this vulnerable population are questionable. Although antidepressant medications have been shown to be effective for treatment of major depressive disorders in older adults,[15] most clinical trials have been limited to younger and healthier depressed elderly. Little is known of the safety and efficacy of antidepressants in the time period immediately following a hip fracture. Although the benefits of antidepressants in the oldest old have not been established,[16] their risks are of serious concern. Epidemiological studies have linked antidepressants to falls,[17,18] loss of bone density,[19] and fractures,[20] although the strength of this evidence has been questioned.[21] The 2012 American Geriatrics Society Beers Criteria acknowledged these concerns by recently designating tricyclic antidepressants (TCAs) and selective serotonin reuptake inhibitors (SSRIs) as "potentially inappropriate" medications in older adults with a history of falls or fractures.[22] The initiation of potentially fall- and fracture-promoting medications in older adults with a recent fall and fracture may represent a significant disease–drug interaction.

Reflecting this concern about the potential harms of antidepressant use, in this study we aim to describe the frequency with which antidepressant drug therapy is initiated in older adults in the period immediately after a hip fracture. Our focus is on community-dwelling elderly, given that maximizing functional recovery after hip fracture in this population is a significant public health issue. The observation of a high rate of antidepressant initiation would draw attention to the competing perils of the post-hip fracture period: psychological distress and risky prescribing. We also examine patient-related and healthcare-related factors, distinct from indication for treatment, that are associated with antidepressant initiation. The prescription of a potentially harmful medication is a modifiable event, and identifying independent correlates of antidepressant initiation may point to avenues for improving prescribing practices for vulnerable older adults.

METHODS

Study Design and Setting

We conducted a retrospective cohort study using multiple linked healthcare databases from Ontario, Canada: 1) the Canadian Institute for Health Information Discharge Abstract Database for information on hospitalizations; 2) the Ontario Health Insurance Plan physician billing database providing information on physician services; 3) the Ontario Drug Benefit database (ODB), which contains details on prescription medications dispensed to patients over 65 years; 4) the Registered Persons Database with demographic information on Ontario residents; 5) the National Ambulatory Care Reporting System for emergency department visits; 6) the National Rehabilitation Reporting System; and 7) the Continuing Care Reporting System. These databases have been used previously to describe outcomes related to hip fractures.[23,24] These data sets were linked using unique encoded identifiers and analyzed at the Institute for Clinical Evaluative Sciences in Toronto, Ontario, Canada.

Study Cohort

The cohort consisted of community-dwelling patients aged 66 years and older in Ontario, who had a hip fracture and were discharged back to the community from the acute care hospital or rehabilitation setting.

We identified hip fractures in the period from April 1, 2003, to February 28, 2011. The index date was defined as the date of discharge home from either the index hospitalization stay (if individuals did not receive rehabilitation) or the discharge from rehabilitation (for those that received this service). If participants experienced more than one hip fracture