

The Fragility Hip Fracture: Not Only a Marked Burden of Disease But Also a Significant Predictor of Subsequent Hip Fracture Risk

Emil H Schemitsch MD; Jonathan Derrick Adachi MD; Jacques P. Brown MD; Jean-Eric Tarride PhD; Natasha Burke MSc; THIAGO OLIVEIRA MD; Lubomira Slatkovska PhD
Western University, London, ON, Canada

Purpose: Hip fracture is one of the most common and burdensome fragility fractures caused by osteoporosis. We describe the contribution of hip fractures to fragility fracture burden in men and women aged >65 years.

Methods: This retrospective observational study used de-identified health services data generated from multiple linked databases in the publicly funded health-care system. The cohort included patients aged >65 years with an index fragility fracture identified using ICD-10 codes from hospital admissions, emergency, and ambulatory care. Patients were included if they had an index fragility fracture between January 1, 2011 and March 31, 2015, and were followed to a cutoff date of March 31, 2017.

Results: The cohort consisted of 115,776 patients with an index fragility fracture. The median age (interquartile range) was 81 years (74–87) and 72.3% were female. Hip fracture was the most common index fracture (27.3%, n = 31,613), and 32.4% (n = 10,254) of index hip fractures occurred in patients ≤80 years of age. Proportion of index fractures that were hip fractures by age was: ages 66-70, 12.1% (n = 2179); ages 71-75, 17.3% (n = 3092); ages 76-80, 24.2% (n = 4983); ages 81-86, 31.2% (n = 7524); and ages 86+, 39.3% (n = 13,835). Hip fracture was also the most common second fracture (27.8%, n = 5745). It occurred as the second fracture in ≥19% of cases for all index fracture sites examined, occurring most often after hip (33.0%) or pelvic (32.3%) index fractures, and least often after tibia/fibula/knee (23.3%) or radius/ulna (19.4%) index fractures. Among patients requiring surgery related to their index fracture (n = 44,949) and those experiencing complications 30 days post-surgery (n = 8868), respectively, 64.1% and 71.9% had a hip fracture. One-year mortality (due to any cause) was 26.2% after hip index fracture and 15.9% in the entire cohort; hip fracture had the highest mortality rate of all index fracture sites examined, followed by femur (21.9%). Total mean (± standard deviation) health-care cost per patient (in 2017 dollars) in the first year after index fracture was the second highest for hip index fracture (\$62,793 ± 44,438), with femur index fracture having the highest cost (\$65,490 ± 54,116).

Conclusion: These data highlight the significant morbidity, mortality, and financial burden of hip fragility fractures in adults aged >65 years and the urgent need to initiate secondary fracture prevention measures after a fragility fracture occurring at any site to help reduce subsequent hip fracture and associated burden.