

Undertreatment of Osteoporosis Following Hip Fracture

To The Editor:

With great interest we read the article "Improvement in the Undertreatment of Osteoporosis Following Hip Fracture" (2002;84:1342-8), by Gardner et al., which brought much needed focus on the issue of undertreatment of osteoporosis after hip fracture. Their findings are in line with other observations¹⁻³ and are similar to our findings in these patients at the time of admission. In a random sample of 288 patients sixty-five years of age and over (mean age and standard deviation, 83.7 ± 7.9 years) who had been admitted to The Canberra Hospital over the last thirty-two months with a nonpathological hip fracture, 83.3% were not receiving any anti-osteoporotic drugs at the time of admission and none had used external hip protectors prior to the fracture. Women were treated two times more often than men (19.5% compared with 9.5%). Of those treated, 3% had calcium supplements only, 6.7% had calcitriol, 1.8% had ergocalciferol, 2.2% had hormone replacement therapy, and 3% had bisphosphonate. In all of these cases, the treatment was inadequate according to the National Osteoporosis Foundation (USA) guidelines, which recommend triple therapy (an antiresorptive agent as well as calcium and vitamin D).

In recent years in our hospital, geriatricians have been increasingly consulted regarding elderly patients with hip fractures, and a position of orthogeriatric registrar was established. Before this, there was no substantial change in the number of patients receiving anti-osteoporotic treatment at the time of discharge (after hip fracture repair) compared with the number receiving such treatment at the time of admission. However, in the last thirty-two months, anti-osteoporotic treatment was initiated for 52.8% of these people before discharge. Moreover, the number of patients receiving anti-osteoporotic treatment at discharge increased from 31.7% in the initial twenty

months of the study to 63.9% in the last year, and nearly half of them received triple therapy, which usually included calcium carbonate (1200 mg/day), ergocalciferol (1000 IU/day), and alendronate (70 mg/week).

There are three more points that we wish to make. Firstly, there is a dramatic underuse of anti-osteoporotic treatment for primary hip fracture prevention despite remarkable advances in medical therapies and availability of medications. This emphasizes (among other things) an urgent need to identify high-risk patients without hip fracture. In our survey, 35% of the hip fractures in the elderly occurred in institutionalized people, although only 5.2% of people sixty-five years of age and over live in residential care facilities. This indicates that hip fractures are about ten times more frequent in this population than they are in home-ambulatory people (1:18.3 and 1:186, respectively). Similar observations have been reported worldwide^{4,5}. Therefore, institutionalized people should be considered to be an important target population—i.e., as candidates for aggressive preventive interventions.

Secondly, it is worth noting that in our study the incidence of hypovitaminosis D was significantly higher in institutionalized patients with hip fracture than it was in those living at home (74% compared with 58%, $p < 0.01$). There was no difference between these groups with regard to mean age or frequency of lymphopenia, anemia, or hypoalbuminemia. Hypovitaminosis D undoubtedly contributes to osteoporosis as well as to muscle weakness⁶, both of which increase the susceptibility to fracture. Because the risk of hip fracture is so high in institutionalized people, we believe that prophylactic supplementation with vitamin D and calcium (which is an inexpensive and safe therapy) should be considered for all institutionalized people and may prevent a large proportion of fractures and greatly decrease costs. Antiresorptive agents, external hip protectors, and other preventive measures

should be considered individually.

Thirdly, it should be emphasized that to achieve adequate anti-osteoporotic treatment for secondary fracture prevention, geriatricians should be involved in the management of all patients who sustain a hip fracture.

In our rapidly aging society, and with fracture rates increasing exponentially with age, a four to fivefold increase in the number of hip fractures is predicted by 2050^{7,8}, with an associated increase in health care costs. It is our responsibility to apply current knowledge about preventive therapies for the benefit of individuals and society.

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