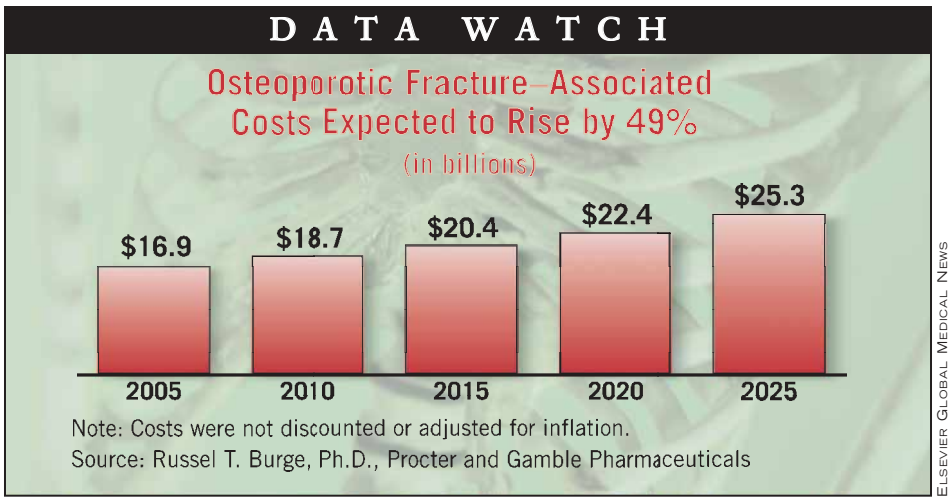

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Calcium Limits Fractures in Elderly; Compliance Is Poor

BY ROBERT FINN
San Francisco Bureau

A large, randomized, placebo-controlled trial has confirmed that calcium supplementation in women above the age of 70 can reduce osteoporotic fractures, but the investigators concluded that it would be ineffective as a public health measure since almost half the women were not compliant.

The study's intent-to-treat analysis demonstrated no overall benefit from calcium supplementation of 1,200 mg per day. But when the analysis was restricted to women who took at least 80% of their tablets, calcium supplementation resulted in a statistically significant 34% decrease in fracture incidence, compared with placebo, Dr. Richard L. Prince of the University of Western Australia, Nedlands, and his colleagues reported (Arch. Intern. Med. 2006;166:869-75).

This figure corresponds to an absolute risk reduction of 10.2% in the calcium group vs. 15.4% in the placebo group.

The 5-year study involved 1,460 women with an average age of 75 years who were randomized to receive 600 mg calcium carbonate twice per day or an identical placebo.

Investigators collected data on incident osteoporotic fractures, vertebral deformity, dual x-ray absorptiometry of the hip and whole body, quantitative ultrasonography of the heel, peripheral quantitative computed tomography of the distal radius, and adverse events.

'These data should give pause to those who consider that public health policy ... should be based on epidemiological or surrogate end point data.'

A total of 236 individuals (16%) sustained 297 incident osteoporotic fractures. After adjustment for age, body mass index, and prevalent baseline fractures, the intent-to-treat analysis revealed that calcium supplementation did not significantly reduce fracture risk.

Medication compliance was checked by counting returned tablets in each 12-month review, and average yearly compliance of less than 80% was classified as noncompliant. By this measure, 630 participants (43%) were noncompliant.

When the analysis was restricted to the 830 participants who were compliant, the investigators demonstrated a reduction in all-site clinical fractures (hazard ratio 0.66), appendicular fractures (hazard ratio 0.65), and upper-limb fractures (hazard ratio 0.44).

The investigators recorded 92,000 adverse events, but only constipation was significantly higher in the calcium group (13%), compared with the placebo group (9%).

The investigators concluded that individuals who are compliant, especially if they are under the care of a clinician, can benefit from calcium supplementation. However, they also concluded, "These data should give pause to those who consider that public health policy in this area should be based on epidemiological or surrogate end point data." ■

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