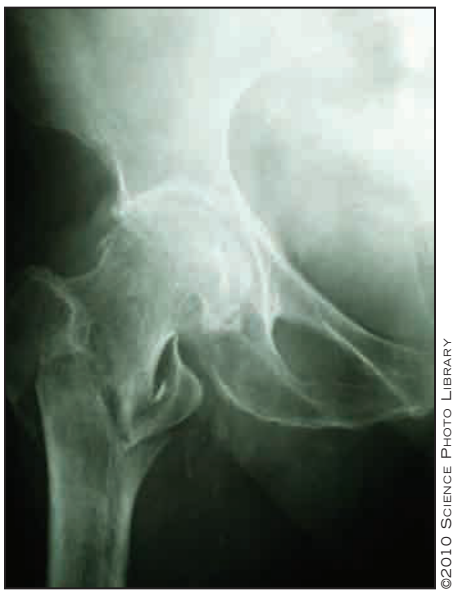
Fewer Osteoporosis Screenings Okay for Some

BY MITCHEL L. ZOLER

FROM THE ANNUAL MEETING OF THE AMERICAN SOCIETY FOR BONE AND MINERAL RESEARCH

TORONTO – Women aged 67 years or older with a bone mineral density T score higher than -1.50 on dual-energy x-ray absorptiometry can have their next DXA examination deferred for at least 10 years with a low risk that they'll progress to osteoporosis in the interim, according to an analysis of data from more than 5,000 U.S. women.

"Fewer than 10% of women with a BMD [bone mineral density] T score of more than -1.50 were estimated to transition to osteoporosis if followed for 15 years," Dr. Margaret L. Gourlay said. For these women, "repeat testing before 10 years is unlikely to show osteoporosis," she said, and for women with a T score of -1.50 to -1.99, "a 5-year interval could be considered."



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T scores exerted more influence on osteoporosis screening intervals than did clinical risk factors for fracture.

The results provide the first evidence-based guidance available on the appropriate interval for osteoporosis screening in elderly women.

"The value of these results is that we can be less concerned about women with good BMD," Dr. Gourlay said in an interview. "We don't need to go on autopilot and screen [all women] every 2 years." Medicare reimburses for screening women aged 65 years or older with dual-energy x-ray absorptiometry (DXA) every 2 years, she noted, and hence U.S. physicians often recommend this screening interval. Earlier this year, however, an updated review of osteoporosis screening by the U.S. Preventive Services Task Force (USPSTF) noted that no evidence existed to support any screening interval (Ann. Intern. Med. 2010;153:99-111).

The results "were a surprise in a good way," said Dr. Gourlay, a family physician at the University of North Carolina in Chapel Hill. "This is good news for women with good BMD. For women with higher bone density, we're probably doing some unnecessary testing."

The new results also showed that the T score exerted the strongest influence on the osteoporosis screening interval, more so than clinical risk factors for fracture. Adjustment for "risk factors did not make too much of a difference, so physicians do not need to make a FRAX calculation" to decide a screening interval, she said. "They can just go by the BMD.

"The importance [of the new findings] is not the absolute time estimates we found; it's the magnitude of the difference," she said. "A 16-year interval [for 10% of women to develop osteoporosis] for women in the top two T score groups, and a 5-year interval [for women with a baseline T score of -1.50 to -1.99] is quite different" from the way most physicians practice today.

She cautioned that the finding needs confirmation from similar analyses using different data sets, and that it remains up to health policy-setting groups, such as the USPSTF, to consider the findings and use them to formulate updated screening recommendations.

The analysis used data collected in the Study of Osteoporotic Fractures (SOF), which enrolled women aged 65 years or older in four U.S. cities starting in 1986 and has followed them since then. Dr. Gourlay and her associates focused on 5,036 women who underwent at least two serial BMD measures over a total of 15 years, excluding women with osteoporosis at any hip site at baseline, those with an incident hip fracture, those treated with a bisphosphonate or calcitonin, and women who died or dropped out of the study.

VITALS

Major Finding: Long-term follow-up of transition rate to osteoporosis in U.S. women aged 67 years or older showed that fewer than 10% developed osteoporosis within 15 years when their baseline DXA T score exceeded -1.50.

Data Source: 5,036 women enrolled in the Study of Osteoporotic Fracture who met the analysis criteria.

Disclosures: Dr. Gourlay said she had no disclosures.

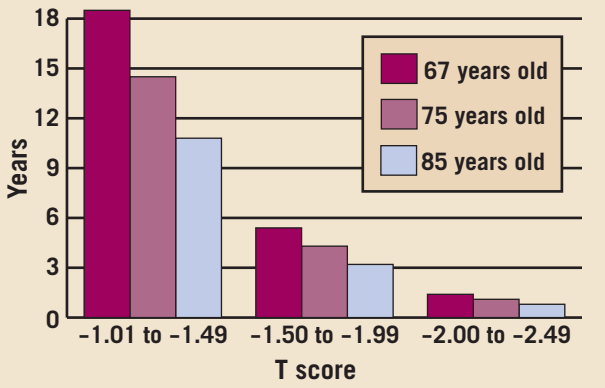
The analysis included 1,275 women who had at least one normal baseline BMD value (a T score of -1.00 or greater) and 4,279 women with at least one T score that identified them as having osteopenia (-1.01 to -2.49). Some women fell into both categories if they underwent at least three DXA examinations starting with at least one normal T score followed by at least one osteopenic score. At baseline, the rate of estrogen use ran 25% in women with a normal T score at baseline and 16% in women with osteopenia – typical for practice in the 1980s.

During follow-up, full transition to osteoporosis occurred in fewer than 1% of the women with a T score of at least -1.00 at baseline, fewer than 5% of those with a T score of -1.01 to -1.49 at baseline, 22% of women with a score of -1.50 to -1.99 at baseline, and in 65% of women with a baseline T score of -2.00 to -2.49.

After adjustment for age and continuous bone mineral density, it took an estimated 16 years for 10% of women with a T score of -1.00 or higher at baseline to transition to osteoporosis. The other three subgroups analyzed underwent covariate adjustment for age, body mass index, current estrogen use, any fracture after age 50, current smoking, and oral glucocorticoid use. After adjustment, the average time for 10% of women to transition to osteoporosis was 15.5 years in women following a T score measure of -1.01 to -1.49, 4.5 years in women with a T score of -1.50 to -1.99, and 1.2 years in women with a T score of -2.00 to -2.49.

Another analysis stratified women by their age at the baseline DXA examination (see chart). Even among women aged 85 years, it took an average of nearly 11 years for 10% to develop osteoporosis after a baseline T score of -1.01 to -1.49. ■

Impact of Baseline Age and T Score on Time to Develop Osteoporosis



Notes: Based on data for 5,036 women. Time for 10% of women studied to transition to osteoporosis after adjustment.
Source: Dr. Gourlay

Elsevier Global Medical News

High Vitamin D Intake Linked to Reduced Fractures

BY MITCHEL L. ZOLER

FROM THE ANNUAL MEETING OF THE AMERICAN SOCIETY FOR BONE AND MINERAL RESEARCH

TORONTO – A daily vitamin D dose of at least 792 IU was linked with significantly reduced rates of nonvertebral fractures and hip fractures in a meta-analysis of data from 11 randomized, controlled trials.

But the benefit appeared blunted when vitamin D was combined with a higher calcium dose, or when patients received vitamin D once yearly, Dr. Heike A. Bischoff-Ferrari reported.

In the meta-analysis, patients in the highest quartile for daily vitamin D intake, 792-2000 IU, had a statistically significant 14% reduced rate of any nonvertebral fracture, and a significant 30% reduced rate of hip fractures, after adjustment for age, gender, and type of dwelling, said Dr. Bischoff-Ferrari, a rheumatologist at the University of Zurich.

Her meta-analysis pooled individual participant data, published through June 2010, from 12 double-blind, randomized, controlled trials that examined the impact of vitamin D supplements on fracture rate in people aged 65 years or older.

The primary analysis focused on the 11 studies of the 12 in which participants received the supplement at least monthly, with 31,022 people enrolled. The 12th study tested once annual dosing, and the researchers included those data in a separate analysis. The participants' average age was 76 years; 90% were women.

The analysis divided the study subjects into the control group, with more than 15,000 people, and then into quartiles of their received amount of vitamin D, including both their study-treatment dose and any additional vitamin D intake. The analysis also accounted for adherence to treatment. Each vitamin D quartile contained nearly 4,000 people, with a daily dose range of 792-2,000 IU forming the top quartile. Only the top quartile of vitamin intake linked with statistically significant differences, compared with the controls, for any nonvertebral fracture and for hip fracture.

Adding the data from the one trial that tested annual vitamin D treatment to the meta-analysis eliminated the statistically significant effect on fracture rates, suggesting that yearly administration of vitamin D produces a different effect than daily, weekly, or monthly treatment.

An additional analysis that looked at the interaction of calcium supplements along with vitamin D showed that with a daily calcium dose below 1,000 mg/day a high-dose vitamin D supplement (792-2,000 IU/day) linked with a statistically significant reduction in nonvertebral fractures, but when the daily calcium supplement delivered 1,000 mg or more, this amount of vitamin D did not associate with any significant change in fracture rate, suggesting an adverse effect from higher calcium intake.

Dr. Bischoff-Ferrari said that she had no disclosures. ■