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Hip fractures have a major impact on society. Disability and death affect patients and their families. The cost of care, in the United States alone, runs into the billions of dollars annually. In this issue Melton et al offer intriguing evidence from one small part of the country that the age-adjusted rate of hip fractures in women may now be falling. They cite all the important papers to demonstrate how different and new these findings are. But before we celebrate these results, which run counter to other reports[1-3] from the recent past, we should have a plausible explanation.

In the past, studies found that the factors associated with hip fractures in women, mediated by their effect on bone density, include: less physical labor, slender stature, lower calcium intake, low vitamin D intake, smoking, heavy alcohol use, late menarche, early menopause, nulliparity, early first pregnancy, lack of estrogen replacement, lack of thiazide diuretic use, steroid use, hyperthyroidism, and phenytoin therapy.

Is It True Everywhere, and Why?

An increase in falls also results in an increase in fractures. A number of factors in addition to the environment are known to increase the likelihood of falls. These include: use of sedative and psychoactive medication, orthostatic hypotension secondary to hypotensive medication use, decreased vision, neuromuscular impairment, decreased cognitive function, and general frailty. Alcohol use also contributes to falls.

From the report of Melton and his colleagues we do not know whether there has been a change in the factors affecting bone density or those affecting the number and nature of falls. And while physicians and public health officials may wish to pat themselves on the back for this decrease in fractures much as they are tempted to do for the decrease in cardiovascular mortality, the evidence for the positive effect of medical intervention is not strong.

In Rochester, Minnesota, and perhaps nationwide, medical interventions may have increased the use of estrogens and decreased the use of long acting sedatives. Calcium and vitamin D supplementations may have increased, but other factors that increase the risk of fractures may have changed too. From what we know, it is hard to predict what should be happening to hip fractures.

In the community Melton et al. studied around the Mayo Clinic, societal changes may better protect the frail elderly, better diets may have increased the years of menstruation, trips to the south may have changed some environmental risk factors (or at least taken the fractures out of the data base). But before we take credit for turning of the tide on hip fractures, we will need to wait and see if the trend is universal and look for a plausible explanation.

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