

First Osteoporotic Break Increases Subsequent Fracture Risk

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The risk of sustaining a second major osteoporotic fracture after a first is more than three times higher in the first year after the initial event, new results from an Icelandic study indicate. And 10 years after the first fracture, the risk of a second remains twice as high as that in a nonfracture population, the research finds.

It was already "well established that fracture risk is substantially increased by having had a previous fracture," lead author Nicholas Harvey, MD, from the University of Southampton, United Kingdom, told Medscape Medical News in an email.

What this new research adds is the finding that the risk of a further fracture "is particularly high in the year or so after a first fracture, [which] suggests that when somebody has an osteoporotic fracture, we should [immediately] treat them with medications to reduce their risk of sustaining another broken bone," he noted.

The work was presented at the World Congress on Osteoporosis, Osteoarthritis and Musculoskeletal Diseases 2016, held in Malaga, Spain, April 14–17, 2016.

Asked to comment, Robert Adler, MD, from the McGuire Veterans Affairs Medical Center and the Virginia Commonwealth University School of Medicine, Richmond, told Medscape Medical News that it's very underappreciated just how high the fracture risk is after the first fracture.

"I see the first fracture as a 'sentinel' event and I like to compare it to a heart attack," he observed.

Risk of a Second Fracture Higher in Women Than Men

Dr. Harvey and colleagues used a population-based cohort of 18,872 men and women born between the years 1907 and 1935 who participated in the Reykjavik Study between 1967 and 1991.

They then extracted data on all fractures from the point of study entry until the end of 2012.

A total of 5039 patients experienced one or more major osteoporotic fractures over the study interval, and these patients were then analyzed for the presence of a second major osteoporotic fracture.

Some 1919 patients in fact did have a second major osteoporotic fracture, Dr Harvey reported, and the risk of having a second fracture after the first increased by 4% for each year of age.

The risk of a second major osteoporotic fracture was greatest immediately after the first fracture and thereafter decreased with time, although it remained higher than the population risk throughout follow-up. For example, 1 year after the first major osteoporotic fracture, the risk of a second fracture was tripled (risk ratio, 3.1) compared with the general study population risk. After 10 years this risk ratio was 2.2.

The risk of having a second major osteoporotic fracture was also 41% higher for women than it was for men.

As Dr Harvey noted, women have a much higher fracture risk than men, at least at an older age, because women tend to have lower bone density and smaller bones than men. Women also lose bone more rapidly after the menopause, both of which increase fracture risk.

Secondary-Fracture Prevention Woeful

"These results suggest that pharmacological approaches to secondary-fracture prevention may be most usefully targeted during the period immediately following a first fracture," Dr Harvey and colleagues concluded.

And these results support ongoing international efforts to promote secondary-fracture prevention in clinics worldwide.

According to the Capture-the-Fracture initiative of the International Osteoporosis Foundation (IOF), 80% of fracture patients are not tested or treated for osteoporosis or instructed on how to prevent falls.

As the IOF site notes, a prior fracture at any skeletal site doubles future fracture risk and a second fracture often happens within 6 to 8 months of the first fracture.

This places affected individuals at increased risk for another fracture, as the current study indicates.

Capture-the-Fracture is a global campaign developed to facilitate the implementation of coordinated, multidisciplinary models of care for secondary-fracture prevention.

The IOF believes this campaign is the single most important initiative to directly improve patient care and reduce fracture-related healthcare costs worldwide.

First Fracture: A Sentinel Event

Referring to his comparison of a first fracture with a heart attack, Dr Adler explained: "When somebody has a heart attack, you don't ignore it, you don't say, you've had your heart attack and that's it, and we won't pay more attention to it.

"But this is what happens after a fracture; we don't pay any attention to the underlying osteoporosis or the underlying continuous risk for further fracture."

And US healthcare workers are just as guilty of this as those elsewhere, Dr Adler pointed out.

But there are a number of organizations there that are trying to raise awareness of the high fracture risk in patients with osteoporosis, one of which is the US National Bone Health Alliance, of which Dr Adler is cochair.

As he explained, the National Bone Health Alliance is trying to get more people to implement fracture-liaison services, such as they have in some European countries, to recognize that people who fracture

are indeed at high risk for another fracture and therefore need treatment for their underlying osteoporosis.

"Oral bisphosphonates are generally the first choice, partially because they are very inexpensive now, and for most people they are well tolerated," Dr Adler emphasized.

Unfortunately, he added, side effects from the bisphosphonates have been blown out of proportion by the news media in the United States, such that even when the underlying osteoporosis is recognized, some patients are reluctant to be treated with these agents because they are so concerned about side effects.

"What they don't realize is that their risk of a fracture if they don't get therapy is much, much greater than their risk of getting any side effects," Dr Adler stressed.

More information on the National Bone Health Alliance may be found on their website.

Dr Harvey reports no conflicts of interest in relation to the current work and personal fees, consultancy, lecture fees, and honoraria from Alliance for Better Bone Health, Amgen, MSD, Eli Lilly, Servier, Shire, Consilient Healthcare, and Internis Pharma, outside the current work. Dr Adler has no relevant financial relationships.

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