

Low testosterone levels associated with risk of fracture in men over 60

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Men over age 60 who have low blood testosterone levels may be at a higher risk for fractures, according to a report in the January 14 issue of Archives of Internal Medicine, one of the JAMA/Archives journals.

One-third of all osteoporotic fractures caused by porous bones occur in men, according to background information in the article. Men with a previous osteoporotic fracture have three to four times the risk of having another fracture than a woman of the same age with a fracture.

“Preventing the first such fracture may have major public health implications,” the authors note. “Thus, understanding the determinants of fracture risk in men may reduce the burden of disease through facilitating better prevention strategies.”

Christian Meier, M.D., of the University of Sydney, Concord, New South Wales, Australia, and colleagues observed 609 men (average age 72.6) between January 1989 and December 2005. The men’s bone mineral density and lifestyle factors were recorded at the beginning of the study. Serum testosterone and estradiol (an estrogen) levels were measured and the occurrence of a low-trauma fracture (associated with a fall from standing height or less) was determined during follow-up.

Low-trauma fractures occurred in 113 men during follow-up with the risk of fracture significantly higher in those with low testosterone levels. “Twenty-five men experienced multiple incident fractures,” the authors note. “A total of 149 incident fractures were reported, including 55 vertebral, 27 hip, 28 rib, six wrist and 16 upper and 17 lower extremity

fractures.”

“After adjustment for sex hormone–binding globulin (a blood protein), serum testosterone and serum estradiol levels were associated with overall fracture risk,” according to the authors. “After further adjustment for major risk factors of fractures (age, weight or bone mineral density, fracture history, smoking status, calcium intake and sex hormone–binding globulin), lower testosterone was still associated with increased risk of fracture, particularly with hip and non-vertebral fractures.”

Although low levels of estradiol and testosterone were associated with a higher risk of fracture in men over 60, only the effect of testosterone was independent of other risk factors, the authors conclude. “While testosterone may affect fracture risk via skeletal and non-skeletal mechanisms, the present findings suggest that measurement of serum testosterone provides additional clinical information for the assessment of fracture risk in elderly men.”

Source: JAMA and Archives Journals

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