Fracture prediction methods may be useful for patients with diabetes

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Use of established fracture prediction methods in older patients with type 2 diabetes mellitus (DM) found that scores from these methods were associated with hip and nonspine fracture risk, and a certain score associated with higher risk of fracture compared to persons without DM, according to a study in the June 1 issue of *JAMA*. Because patients with type 2 DM often have higher levels of bone mineral density (BMD), it has been uncertain the applicability of fracture risk screening methods typically used for patients with lower levels of BMD.

"It is increasingly recognized that adults with type 2 diabetes mellitus, an estimated 17 percent of older adults in the United States, have a higher fracture rate. Preventive identification of adults at higher fracture risk is based on bone mineral density T scores, used alone or in the World Health Organization Fracture Risk Algorithm (FRAX) score," according to background information in the article. "There is a need to clarify the use of standard methods for assessing fracture risk in this expanding population of older adults [with type 2 DM]."

Ann V. Schwartz, Ph.D., of the University of California, San Francisco and colleagues conducted a study to assess the associations of BMD T score and FRAX score with hip and nonspine fracture risk in older adults with type 2 DM. The researchers analyzed data from 3 prospective observational studies with fracture outcomes that included 9,449 women and 7,436 men.

Of 770 women with DM, 84 experienced a hip fracture and 262 a nonspine fracture during an average follow-up of 12.6 years. Of 1,199 men with DM, 32 experienced a hip fracture and 133 a nonspine fracture during an average follow-up of 7.5 years. The researchers found that femoral neck (segment of bone connecting the head of the femur and the shaft) BMD T score and FRAX score were associated with hip and nonspine fracture risk in patients with DM. "However, for a given T score and age, those adults with DM had a higher risk of fracture than those without DM, consistent with previous studies. Participants with DM also experienced higher fracture rates at a given FRAX score than participants without DM," the authors write.

"Our results indicate that femoral neck BMD and the FRAX score are as useful for the assessment of fracture risk in older adults with DM as in those without DM. However, interpretation of T score or FRAX score in an older patient with DM must take into account the higher fracture risk associated with DM," the researchers write. "Refinements are needed in current treatment and diagnostic algorithms for use in older patients with type 2 DM."

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