Calcium and vitamin D supplementation are essential to help manage osteoporosis, especially following a hip fracture

LAS VEGAS (March 12, 2019)—A new study presented at the 2019 Annual Meeting of the American Academy of Orthopaedic Surgeons (AAOS) found that the majority of individuals with osteoporosis do not take adequate calcium and vitamin D supplementation to help reduce the risk of osteoporosis-related fractures. Additionally, only 14 percent of osteoporosis patients with a previous hip fracture are receiving proper supplementation of calcium and vitamin D.

According to several studies, osteoporosis is expected to increase as our population lives longer. Osteoporosis-related fragility fractures can lead to increased morbidity, mortality and healthcare expenses. Calcium and vitamin D supplementation have been demonstrated to be effective in maintaining bone health and reducing subsequent related fractures. Additionally, this supplementation correlates with improved clinical and functional outcomes in postoperative hip fracture patients.

The retrospective study, “Are Patients with Osteoporosis and a History of Hip Fracture Receiving Adequate Calcium and Vitamin D Supplementation?”, with Evan D. Nigh, a fourth-year medical student and presenting author, Spencer Summers, MD and Sheila Conway, MD at the University of Miami Miller School of Medicine, analyzed six years of National Health and Nutrition Examination Survey (NHANES) data to identify individuals self-reporting their osteoporosis diagnosis.

The team reviewed the records of 1,065 patients with osteoporosis to determine calcium and vitamin D supplement intake, femoral neck bone mineral density (a strong predictor of hip fracture susceptibility) and prior incidence of hip fracture. They found that 861 patients (80.8 percent) with osteoporosis were not being treated appropriately with calcium and vitamin D, and 58 percent of patients were identified as having a history of both osteoporosis and hip fracture.

Among the patients studied, 924 patients (87 percent) were female with a mean age of 67 years old. The research findings also showed that, Caucasian females have increased odds of receiving adequate supplementation, while non-Caucasian minorities have decreased odds. Specifically, among Mexican-Americans, there was an independent risk factor for decreased odds for receiving adequate treatment.

“This study has highlighted multiple opportunities to improve osteoporosis treatment and further efforts are warranted to identify specific strategies to address the observed racial disparity, stated Dr. Conway, an Associate Professor of Orthopaedic Surgery.

“In general, osteoporosis patients are largely undertreated and not adequately managed with prescription medication or nutrient supplementation,” said Nigh. “We hypothesized that patients with a history of hip fracture would have higher supplementation rates because they were actively seeing their primary care and orthopaedic physicians for follow-up appointments, and they would be personally motivated to prevent future fractures, since they are now at a greater risk. However, the compliance rates among this subset of osteoporosis patients was surprisingly low.”
Given the high morbidity and mortality rates in elderly patients with hip fractures,¹ and that calcium and vitamin D are inexpensive and readily available to help manage osteoporosis, the authors hope that continued patient education, especially among the underserved, and an increased role by orthopaedic surgeons to assist with intervention, can help close the gap and increase awareness and compliance.

“This paper should serve as a call-to-action to orthopaedic surgeons to ensure that our osteoporotic hip fracture population receives adequate medical treatment to maximize their post-operative recovery, added Dr. Summers.

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2019 AAOS Annual Meeting Disclosure Statement

About the AAOS
With more than 39,000 members, the American Academy of Orthopaedic Surgeons is the world’s largest medical association of musculoskeletal specialists. The AAOS is the trusted leader in advancing musculoskeletal health. It provides the highest quality, most comprehensive education to help orthopaedic surgeons and allied health professionals at every career level best treat patients in their daily practices. The AAOS is the source for information on bone and joint conditions, treatments and related musculoskeletal health care issues and it leads the health care discussion on advancing quality.

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