Medical Xpress

Routine bisphosphonate treatment for women over age 65

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Osteoporosis is a disease of progressive bone loss affecting more than 44 million Americans and contributing to an estimated 2 million bone fractures each year. A new study presented today at the 2015 Annual Meeting of the American Academy of Orthopaedic Surgeons (AAOS) found that routine bisphosphonate treatment of women over 65 who sustain a distal radius (wrist) fracture—one of the most common fractures associated with osteoporosis—could significantly reduce the risk for additional fractures, primarily hip fractures, but at an estimated cost of more than $2 billion annually.

Over 50 percent of men and women over the age of 80 meet diagnostic criteria for osteoporosis placing them at increased risk for bone fractures , including hip fractures, which cause an estimated 300,000 unplanned hospital admissions in the U.S. each year. The lifetime cost of a hip fracture is estimated at $81,300, of which approximately 44 percent of the costs are associated with nursing facility expenses. Bisphosphonates, a drug known to increase bone mass and prevent fractures, has been associated with atypical femur fractures in a small, but significant number of patients.

Researchers reviewed existing literature and Medicare data to determine distal radius fracture incidence and age-specific hip fracture rates after distal radius fracture with and without bisphosphonate treatment. A model was then created to determine future fracture rates with and without treatment, and related costs.

The model predicted 357,656 lifetime hip fractures following distal radius fracture in all females age 65 and older in the U.S. If these patients received regular bisphosphonate treatment following a distal radius fracture, the number of hip fractures would drop to 262,767 over the lifetime of these patients; however, an estimated 19,464 patients would suffer an atypical femur fracture as a result of the treatment.

The cost of routine bisphosphonate treatment, including the cost for treating associated atypical femur fractures, comes to a lifetime total of $19.5 billion, or approximately $205,534 per avoided hip fracture.

"Our study suggests that routine universal utilization of bisphosphonates in elderly women after distal radius fracture would not be economically advantageous despite the cost savings associated with reduction of the hip fracture burden in that population," said lead study author, Suneel B. Bhat, MD, an orthopaedic surgery resident at the Rothman Institute in Philadelphia, Pa.

The study authors also hypothesize that the cost of bisphosphonates would need to drop to $70 per patient each year, from the current average annual wholesale cost of $1,485 per patient, to make the treatment affordable to every patient age 65 and older following a wrist fracture. In addition, selecting patients at lower risk for atypical femur fractures for treatment may reduce the number of bisphosphonate-related fractures. Confirming patient osteoporosis and fracture risk through a DEXA Scan (dual X-ray Absorptiometry) before prescribing bisphosphonates remains the most cost-effective method for treating osteoporosis and avoiding subsequent fractures.

Provided by American Academy of Orthopaedic Surgeons

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