Medical Xpress

Hip fractures in the elderly caused by falls, not osteoporosis

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Anti-osteoporotic medication is not an effective means for preventing hip fractures among the elderly, concludes a study recently published in the *BMJ*.

Proximal femoral fractures (i.e., hip fractures) occur in the world at a rate of 1.5 million per year, or 7,000 per year in Finland. As most such fractures occur among older people, their number is expected to grow as the population ages. Hip fractures often lead to permanently reduced mobility, quality of life and general health, as well as result in significant social costs.

Since the early 1990s, anti-osteoporotic medication has been used to reduce bone fractures among the elderly, of which hip fractures are the most severe. Many thought that slowing down bone loss could prevent fractures. The criteria for evaluating the risk for fracture were originally drafted based on bone density measurements. The criteria used by current bone fracture risk calculators indicate that most women over the age of 65 are in need of medication. In the USA, for example, 75% of Caucasian women over the age of 65 are considered to be in the risk group. This has created a massive market for osteoporosis medication and bone density measuring equipment.

The international research group led by Professor Teppo Järvinen, University of Helsinki, Finland, studied the efficacy of anti-osteoporotic medication in preventing hip fractures by reviewing all publications on the topic (i.e., the scientific basis of the current treatment strategy).

The results from this meta-analysis were shocking.

"The benefit from the drug treatment is marginal at best. It also seems - and this is an interesting detail - that the better the response to the treatment in the study, the more flaws the study had," Järvinen explains.

One notable problem was the age distribution of study participants. Most hip fractures occur in patients over the age of 80, but the studies focus on a significantly younger group. "Only three studies have been conducted on subjects 80 years of age or older, and none of them found that the medication prevented hip fractures," Järvinen says.

The researchers who performed the meta-analysis concluded that the idea of preventing hip fractures with anti-osteoporotic medication is fundamentally flawed, since the brittleness of the bones does not significantly affect the occurrence of bone fractures among older people.

"Hip fractures are the result of falls or similar small accidents. Even if the older person has brittle bones, they are unlikely to fracture without an accident. Asking questions about balance disorders provides a more accurate understanding of the patient's risk for bone fracture than taking bone density measurements," states Järvinen.

Health risks and wasted resources

Overdiagnosing the fracture risk and the resulting overtreatment are bad for both the patients and the health care system, the researchers point out. Being labelled "at risk" can be psychologically detrimental, and fear of fractures can cause the patient to stop engaging in active exercise, which in turn worsens health. Osteoporosis medication also comes with its own harmful side effects.

"When the treatment is drug-focused, other factors that contribute more

significantly to the risk for fractures are easily overlooked, such as smoking, exercise, and solutions which may prevent falls," Järvinen points out.

More information: The study appeared in the "Too Much Medicine" series of articles published by the *BMJ*.

Provided by University of Helsinki