

# To prevent fractures, treating only women with osteoporosis is not enough

In older osteopenic women, intravenous zoledronic acid effectively prevents fragility fractures



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The conventional bone mineral density threshold for initiating treatment to prevent fragility fractures is a T-score of less than -2.5 (the World Health Organization criteria for osteoporosis).<sup>1</sup> However, most fractures experienced by postmenopausal women occur not in osteoporotic women but in those with low bone mass (osteopenia).<sup>2</sup>

Investigators in New Zealand recently published the results of a randomized controlled trial they conducted to determine the efficacy of zoledronate (zoledronic acid) in preventing fractures in postmenopausal women.<sup>3</sup> They enrolled women age 65 years or older with osteopenia of the hip and randomly assigned the participants to 4 intravenous infusions of 5 mg zoledronic acid or placebo at 18-month intervals for 6 years.

## Zoledronic acid reduced fracture risk

The trial included 2,000 postmenopausal women (mean age at baseline, 71 years; 94% European ethnicity) with a T-score of -1.0 to -2.5 at either

*The author reports no financial relationships relevant to this article.*

the total hip or the femoral neck on either side. Both hips were assessed. The women received either zoledronic acid treatment or placebo in a 1:1 ratio. Candidates were excluded if they regularly used bone-active drugs in the previous year.

Fragility fractures were noted in 190 women in the placebo group and in 122 women treated with zoledronic acid (hazard ratio [HR], 0.63; 95% confidence interval [CI], 0.50–0.79,  $P < .001$ ). The number of women that would need to be treated to prevent the occurrence of a fracture in 1 woman was 15.

Compared with placebo, zoledronic acid also lowered the risk of nonvertebral, symptomatic, and vertebral fractures as well as height loss ( $P \leq .003$  for these 4 comparisons). Relatively few adverse events occurred with zoledronic acid treatment. No atypical femoral fractures or cases of osteonecrosis of the jaw occurred in either group.

## Trial closes the knowledge gap regarding treatment thresholds

This trial's findings underscore the importance of age as a risk factor for

fragility fracture and clarify that pharmacologic treatment is appropriate not only for women with osteoporosis but also for older postmenopausal women with osteopenia.

As the authors point out, administration of zoledronic acid less often than annually can be highly effective in preventing fractures; they recommend future trials of administration of this intravenous bisphosphonate at intervals less frequent than 18 months. Although the absence of atypical femoral fractures or cases of osteonecrosis of the jaw is reassuring, the authors note that their trial was underpowered to assess these uncommon events. ●

### References

1. World Health Organization. WHO Scientific Group on the assessment of osteoporosis at primary health care level. Summary meeting report, Brussels, Belgium, 5-7 May 2004. <https://www.who.int/chp/topics/Osteoporosis.pdf>. Accessed November 19, 2018.
2. Siris ES, Chen YT, Abbott TA, et al. Bone mineral density thresholds for pharmacological intervention to prevent fractures. *Arch Intern Med*. 2004;164:1108-1112.
3. Reid IR, Horne AM, Mihov B, et al. Fracture prevention with zoledronate in older women with osteopenia. *N Engl J Med*. 2018. doi:10.1056/NEJMoa1808082.