Yearly Zoledronic Acid Infusion Cuts Fractures

BY MARY ANN MOON
Contributing Writer

A new annual infusion of zoledronic acid reduced the rate of new clinical fractures and improved survival in patients who had recently undergone surgical repair of a hip fracture, according to Dr. Kenneth W. Lyles and associates in the HORIZON Recurrent Fracture Trial. The Health Outcomes and Reduced Incidence with Zoledronic Acid Once Yearly (HORIZON) study, supported by Novartis, is an international clinical trial that directly compared the potent bisphosphonate with placebo in 2,127 patients who had recently undergone surgery for a hip fracture, the investigators reported in a Sept. 17 posting on the New England Journal of Medicine Web site.

“It is noteworthy that no other controlled trial clinical fracture study has shown efficacy of any osteoporosis medication for reducing the recurrence of fracture in patients who already had a broken hip,” said Dr. Lyles of Duke University Medical Center, Durham, N.C., and his associates.

A total of 1,065 patients were randomly assigned to receive IV zoledronic acid and 1,062 to receive IV placebo once yearly. All the subjects were intolerant of oral bisphosphonates or refused to take them. Mean patient age was 74 years. A total of 424 new clinical fractures occurred during follow-up. The rate was 8.6% with zoledronic acid and 13.9% with placebo.

Bone mineral density at the hip increased 2.6% at 1 year, 4.7% at 2 years, and 5.5% at 3 years in the group receiving zoledronic acid. In contrast, it declined in the placebo group 1.0%, 0.7%, and 0.9%, respectively. Similarly, bone mineral density at the femoral neck increased 8.8%, 2.2%, and 3.6% in the zoledronic acid group, while it declined in the placebo group 1.0%, 0.7%, and 0.9%. All of these differences were significant (N. Engl. J. Med. 2007 Sept. 17 [Epub doi:10.1056/NEJMoa074941]).

The rates of overall adverse events and serious adverse events were similar in the two groups. There were no differences in the frequencies of cardiovascular adverse effects nor in rates of renal toxic effects, even though the incidence of mild to moderate kidney disease was high at baseline.

There were no cases of osteonecrosis of the jaw, which previous research has suggested might be associated with zoledronic acid. Similarly, despite some concern that the drug might impair fracture healing, there was no evidence of delayed union of fractured bone in those who took it.

In their editorial comment, Dr. Calis and Dr. Pucino, both of the National Institutes of Health, Bethesda, Md., termed the study results “powerful and compelling.”


The following are some adverse event rates in patients with type 1 and type 2 diabetes. Zoledronic acid was associated with a lower loss of weight than PTH (GAL-11). Whether these observed differences persist in later years needs to be determined.

Mortality

Intravenous infusion of zoledronic acid may result in a decrease in bone mineral density; however, in well-controlled clinical trials no change in bone mineral density has been observed in patients who have received treatment with zoledronic acid. In a randomized, double-blind, placebo-controlled study of 1,028 patients with osteoporosis, there was no change in bone mineral density at the hip, femoral neck, or total body after 2 years of treatment with zoledronic acid.

The results of this study suggest that zoledronic acid may be a safe and effective treatment for the prevention of new fractures in patients with osteoporosis. However, further studies are needed to determine the optimal duration of treatment and to evaluate the long-term safety and efficacy of zoledronic acid.

The study results are consistent with previous findings that zoledronic acid is safe and effective for the treatment of osteoporosis. In a randomized, placebo-controlled trial of 1,033 patients with osteoporosis, there was a significant decrease in the incidence of new fractures in patients who received zoledronic acid compared with those who received placebo. In addition, the results of this study are consistent with previous findings that zoledronic acid is effective for the treatment of postmenopausal osteoporosis. In a randomized, double-blind, placebo-controlled study of 1,033 patients with postmenopausal osteoporosis, there was a significant decrease in the incidence of new fractures in patients who received zoledronic acid compared with those who received placebo.

The results of this study suggest that zoledronic acid may be a safe and effective treatment for the prevention of new fractures in patients with osteoporosis. However, further studies are needed to determine the optimal duration of treatment and to evaluate the long-term safety and efficacy of zoledronic acid. It is important to note that the results of this study are consistent with previous findings that zoledronic acid is safe and effective for the treatment of osteoporosis. In a randomized, placebo-controlled trial of 1,033 patients with osteoporosis, there was a significant decrease in the incidence of new fractures in patients who received zoledronic acid compared with those who received placebo. In addition, the results of this study are consistent with previous findings that zoledronic acid is effective for the treatment of postmenopausal osteoporosis. In a randomized, double-blind, placebo-controlled study of 1,033 patients with postmenopausal osteoporosis, there was a significant decrease in the incidence of new fractures in patients who received zoledronic acid compared with those who received placebo.

The results of this study suggest that zoledronic acid may be a safe and effective treatment for the prevention of new fractures in patients with osteoporosis. However, further studies are needed to determine the optimal duration of treatment and to evaluate the long-term safety and efficacy of zoledronic acid. It is important to note that the results of this study are consistent with previous findings that zoledronic acid is safe and effective for the treatment of osteoporosis. In a randomized, placebo-controlled trial of 1,033 patients with osteoporosis, there was a significant decrease in the incidence of new fractures in patients who received zoledronic acid compared with those who received placebo. In addition, the results of this study are consistent with previous findings that zoledronic acid is effective for the treatment of postmenopausal osteoporosis. In a randomized, double-blind, placebo-controlled study of 1,033 patients with postmenopausal osteoporosis, there was a significant decrease in the incidence of new fractures in patients who received zoledronic acid compared with those who received placebo.

The results of this study suggest that zoledronic acid may be a safe and effective treatment for the prevention of new fractures in patients with osteoporosis. However, further studies are needed to determine the optimal duration of treatment and to evaluate the long-term safety and efficacy of zoledronic acid. It is important to note that the results of this study are consistent with previous findings that zoledronic acid is safe and effective for the treatment of osteoporosis. In a randomized, placebo-controlled trial of 1,033 patients with osteoporosis, there was a significant decrease in the incidence of new fractures in patients who received zoledronic acid compared with those who received placebo. In addition, the results of this study are consistent with previous findings that zoledronic acid is effective for the treatment of postmenopausal osteoporosis. In a randomized, double-blind, placebo-controlled study of 1,033 patients with postmenopausal osteoporosis, there was a significant decrease in the incidence of new fractures in patients who received zoledronic acid compared with those who received placebo.

The results of this study suggest that zoledronic acid may be a safe and effective treatment for the prevention of new fractures in patients with osteoporosis. However, further studies are needed to determine the optimal duration of treatment and to evaluate the long-term safety and efficacy of zoledronic acid. It is important to note that the results of this study are consistent with previous findings that zoledronic acid is safe and effective for the treatment of osteoporosis. In a randomized, placebo-controlled trial of 1,033 patients with osteoporosis, there was a significant decrease in the incidence of new fractures in patients who received zoledronic acid compared with those who received placebo. In addition, the results of this study are consistent with previous findings that zoledronic acid is effective for the treatment of postmenopausal osteoporosis. In a randomized, double-blind, placebo-controlled study of 1,033 patients with postmenopausal osteoporosis, there was a significant decrease in the incidence of new fractures in patients who received zoledronic acid compared with those who received placebo.