Zoledronic Acid Prevents Poststroke Bone Loss

BY DIANA MAHONEY
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HARROGATE, ENGLAND — A single injection of zoledronic acid can help counteract the loss of bone mass associated with acute stroke and reduce the likelihood of osteoporotic fractures if given soon after the event, a study has shown.

Patients injected with the long-acting, highly potent bisphosphonate within 35 days after suffering a stroke lost significantly less hip bone mineral density than matched control patients who received a placebo, reported Kenneth Poole, B.M., in a presentation at the annual meeting of the National Osteoporosis Society.

The findings suggest that taking measures to prevent bone loss as a routine part of stroke management could significantly reduce the hip fracture rate, particularly when patients become fully or partly immobilized, said Dr. Poole. “We know that osteoporosis is a significant complication of stroke, particularly when patients become fully or partly immobilized,” said Dr. Poole. “When someone is put to bed and has an immobilized limb, the cells that break down bone are overactive.” The risk is exacerbated by stroke-related lower-limb and vision problems.

Methotrexate Cuts Bone Loss Effects, Lowers sRANKL

In patients with rheumatoid arthritis, methotrexate significantly reduces abnormal levels of plasmatic sRANKL, the main cytokine involved in inducing osteoporosis and bone erosions, Donna Baltaru, M.D., reported at the 4th International Congress on Autoimmunity.

Soluble RANKL (receptor activator of nuclear factor-kappa B ligand) is a member of the tumor necrosis factor cytokines and plays a major role in the regulation of bone remodeling, specifically in the stimulation of osteoclast formation, said Dr. Baltaru, of the Emergency Military Hospital in Cluj-Napoca, Romania.

Dr. Baltaru and her colleagues evaluated plasma sRANKL levels of 15 patients with rheumatoid arthritis, who had never received corticosteroids or disease-modifying antirheumatic drugs.

The study participants were assessed before and after 3 months of methotrexate therapy (15 mg/week). sRANKL levels were also evaluated in 7 healthy controls and 16 patients with type 1 osteoporosis.

Plasma sRANKL values were determined by quantitative enzyme-linked immunosorbent assay. At baseline, the median sRANKL value for RA patients was 467 pg/mL, though there was a wide variation (70-1,500 pg/mL). Levels ranged between 10-30 pg/mL for normal subjects and 20-200 pg/mL in patients with osteoporosis.

Methotrexate therapy significantly reduced plasma sRANKL levels in the rheumatoid arthritis patients, to a median value of 185 pg/mL.

Zoledronic Acid in OA Studies

Improvement in pain, stiffness, and physical function in OA studies

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No sulfonamide contraindication

Significant improvement in ACR20 responder rate in an RA study


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