Drug Combo Boosts Rebuilding of BMD

by Sally Koch Kubetin

Philadelphia — Combining one-a-year zoledronic acid and daily teriparatide significantly increased bone mass in key skeletal sites and lowered serum levels of bone turnover biomarkers in postmenopausal women with osteoporosis, according to a study presented at the annual meeting of the American College of Rheumatology.

Previous research has not shown a bone mineral density (BMD) benefit from using the two types of drugs together. In fact, certain bisphosphonates have been shown to blunt the beneficial effects of recombiant human parathyroid hormone analogs such as teriparatide (Forteo).

However, findings from animal studies suggested that zoledronic acid (Reclast) did not blunt the effect of recombinant human parathyroid hormone analogs, a finding that led the investigators to undertake the latest trial.

Both drugs have FDA approval for the management of osteoporosis in men and women. Teriparatide also has an indication to treat corticosteroid-induced osteoporosis. Zoledronic acid has an additional indication for use in the treatment of osteoporosis in patients who have osteoporosis and have already had a fracture.

The trial including 412 postmenopausal women considered to be at high risk for fracture. They were diagnosed with osteoporosis on the strength of having a T score that was 2.5 standard deviations below peak bone mass, or having a slightly better T score but a history of at least one fracture.

The women were randomized to one of three treatment groups: zoledronic acid alone (137), zoledronic acid plus teriparatide (137), and teriparatide alone (138). The zoledronic acid dosage was 5 mg given intravenously once per year. Teriparatide was given daily in a subcutaneous dose of 20 mcg.

Use of the two drugs in combination increased BMD at the spine more than did teriparatide alone, and at the hip more than did zoledronic acid alone, according to study presenter Dr. Kenneth G. Saag, the Jane Knight Lowe Chair of Medicine in Rheumatology at the University of Alabama at Birmingham.

BMD at the spine increased 7.51%, 7.05%, and 4.37% in the combination arm, teriparatide arm, and zoledronic acid arm, respectively. Combination therapy significantly increased lumbar spine BMD at week 13 and 26 and total hip BMD at weeks 13, 26, and 52 compared with teriparatide alone.

Differences among treatment groups in the percent change in lumbar spine and total hip BMD were 7.51%, 4.37%, and 3.21% at 1 year, and 5.28%, 3.21%, and 2.03%, respectively, at 2 years.

Use of the two drugs in combination increased BMD at the spine more than did teriparatide alone, at the hip more than did zoledronic acid alone, according to the study.