

# Drug Combo Boosts Rebuilding of Bone Mass

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PHILADELPHIA — Combining once-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 recombinant 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

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human parathyroid hormone analogs, a finding that led the investigators to undertake the latest trial.

Both drugs have Food and Drug Administration approval for the management of osteoporosis in men and woman. 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 included 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 treatment with zoledronic acid alone (137), with both zoledronic acid and teriparatide (137), and with teriparatide alone (138). The zoledronic acid dosage was 5 mg 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.

Changes in BMD were calculated as

the difference of least square means (LSM) from a two-way analysis of variance model calculated including the percent change in lumbar spine and total hip BMD at weeks 13, 26, and 52 in all three treatment groups.

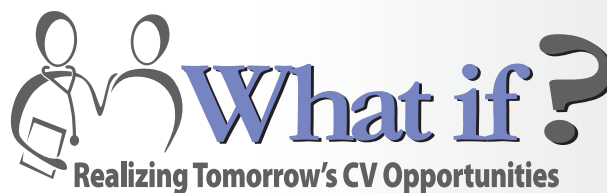
In terms of serum markers of bone turnover, C-telopeptide declined within 4 weeks and rose progressively thereafter in the combination arm, with levels above baseline within 39 weeks. N-

propeptide of type 1 collagen increased for up to 4 weeks, declined to a nadir at week 8, and then rose progressively with levels above baseline by week 26. Levels of both markers were lower with combination therapy than with teriparatide alone throughout the trial.

The incidence of serious adverse events was 9.5%, 14.6%, and 10.9% in the combination, zoledronic acid, and teriparatide arms, respectively. Transient

postinfusion flulike symptoms were more common in the combination and zoledronic acid groups than in the teriparatide group.

Dr. Saag disclosed financial relationships with Eli Lilly & Co., Merck & Co., Novartis, Amgen Inc., Roche, Procter & Gamble Co., NPS Pharmaceuticals Inc., Pfizer Inc., Sanofi-Aventis, TAP Pharmaceutical Products Inc., and Glaxo-SmithKline. ■



4th in a series of 4

An estimated 73.6 million Americans have high blood pressure (BP).<sup>1</sup> While 69% of patients with hypertension received treatment, only 45% of all patients have their BP under control.<sup>1</sup> **What if** your patient is not at BP goal?

## Advance Therapy

When lifestyle modification is not enough, an antihypertensive agent should be added to the treatment regimen.<sup>2</sup> As outlined in the Seventh Report of the Joint National Committee on Prevention, Detection, Evaluation, and Treatment of High Blood Pressure (JNC 7), therapy should be advanced, as necessary and appropriate, to help your patient achieve and maintain BP goal.<sup>2</sup> Under some circumstances, advancement may include switching to an alternative therapy.<sup>2</sup> Consider the following:

- **What if the initial therapy is not tolerated?**
  - Switch to an agent from another class with proven efficacy<sup>2</sup>
- **What if the initial optimized therapy fails to achieve BP goal?**
  - Switch to another antihypertensive agent more likely to succeed<sup>2</sup>

## The Benefits of Effective Antihypertensive Therapy—Reducing BP and Beyond

Cardiovascular (CV) disease kills more Americans than any single cause or group of causes.<sup>1</sup> Elevations in BP increase the risk for experiencing a CV event,<sup>3</sup> but BP reduction with antihypertensive agents has been shown to reduce CV risk.<sup>4,5</sup> Before choosing a therapy for your patient, take the following factors into consideration:

- **What if my patient is at high risk for CV disease?**
  - Failure to maintain tight BP control in high-risk patients will not sustain the CV benefits gained by BP reduction,<sup>6</sup> so consider an agent with endurance
- **What if the antihypertensive agent can go beyond BP efficacy?**
  - Some antihypertensive therapies have clinical evidence demonstrating CV risk reduction, allowing you to optimize hypertension management
- **What if formulary access has changed?**
  - Revisit formulary access information and choose the best agent available to your patient

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