Strontium on Comeback for Osteoporosis

BY TIMOTHY F. KIRN
Sacramento Bureau

SAN ANTONIO — The older generation osteoporosis drug, strontium ranelate, is receiving renewed attention as a result of a metaanalysis showing that it reduces fracture rates in postmenopausal women as well as bisphosphonates do.

Like bisphosphonates, strontium ranelate inhibits bone resorption but also increases bone formation, a combination that improves bone density and bone mass, Jean-Yves Reginster, M.D., said at the annual meeting of the American College of Rheumatology.

In one of the reports, strontium ranelate for 3 years reduced vertebral fracture risk by 41%, and increased lumbar-spine bone density by 14% and femoral neck density by 8%, relative to placebo. The 1,649 subjects were osteoporotic women who had previously had a vertebral fracture (N. Engl. J. Med. 2004;350:459-68).

Dr. Reginster's metaanalysis of that study and a similar investigation confirmed strontium ranelate's effectiveness in preventing hip and vertebral fractures, even in the frail elderly.

Strontium ranelate inhibits bone resorption but also increases bone formation, improving density and mass.

DR. REGINSTER

In that analysis, which involved more than 7,000 postmenopausal women, the risk of vertebral fracture during a 3-year period was reduced by 32% in 1,488 women aged 80 years or older, and nonvertebral fracture risk was reduced by 31%. Among the 1,977 women who were older than 77 years and had a baseline bone mineral density T-score of –3 or less, the hip fracture rate was reduced by 36% relative to placebo.

The drug's efficacy in elderly patients shows it was building bone mass, not just density, Dr. Reginster of the University of Liege (Belgium) said at a press briefing.

Bisphosphonates tend not to be so effective in the very elderly, he added.

Among the patients in both studies who had not previously had a vertebral fracture—about 2,500 patients—the vertebral fracture rate was reduced by 48% relative to placebo. Similar risk reductions are seen with bisphosphonate treatment (47% for alendronate and 49% for risedronate).

Diarrhea was the only side effect that was significantly more associated with the study drug, occurring in 6% of those patients.

Like a bisphosphonate, strontium ranelate is taken on a fasting stomach. The dosage used in the studies was 2 g daily. Participants also took calcium and vitamin D supplements. ■

Teriparatide Speeds Healing of Fractures

BY BRUCE JANCIN
Denver Bureau

COLORADO SPRINGS — The anabolic bone-forming agent teriparatide (Forteo) is winning anecdotal raves for augmentation of fracture healing in both nonosteoporotic and osteoporotic patients.

"This is a very exciting metabolic therapy. My experience so far really does show that it works," Thomas P. Knecht, M.D., declared at a meeting of the Colorado chapter of the American College of Physicians.

Acceleration of fracture healing is an off-label use of teriparatide, the N-terminal 34-amino-acid chain of human parathyroid hormone. Teriparatide's approved indications are for treatment of postmenopausal osteoporotic women at high fracture risk, and for increasing bone mass in osteoporotic men at elevated fracture risk.

The evidence for augmentation of fracture healing comes from multiple favorable animal studies as well as anecdotal clinical experiences that are consistent with the animal findings, explained Dr. Knecht, an endocrinologist at the University of Utah, Salt Lake City.

He offered two illustrative cases from his own practice, both involving middle-aged recreational athletes eager for a rapid return to sports.

One was a 48-year-old man with type 1 diabetes and normal bone mineral density test scores who became severely hypoglycemic, lost consciousness, and fell,

fracturing his right tibia and fibula in multiple places. Surgeons placed a metal rod knee to ankle. The bone pain quickly became nonlimiting after Dr. Knecht placed him on teriparatide. He began long-distance running 3 months post surgery, and downhill skiing a week after that.

"My assessment of this patient's response was that placebo can't do that. Nobody placebos their way through a fracture like that one. So you have to say the healing was dramatic and the pain response was dramatic," he observed.

Another patient was a 38-year-old woman, also with normal T-scores on dual-energy x-ray absorptiometry bone mineral density testing, who fell while training for a half-marathon and fractured her great toe. The break involved the metatarsophalangeal joint. "That's a bad fracture for a runner," the physician noted.

Yet her fracture pain resolved after a single week on teriparatide. Six weeks later she completed her half-marathon.

'Fracture is actually a big cause of death in transplant patients, so we can pretty much get anything we need covered for those people.'

While both these patients had good bone mineral density, Dr. Knecht said he has regularly seen the same sort of results—"not only a dramatic pain response, but an absolutely striking metabolic response"—in patients he has placed on teriparatide to augment healing of osteoporotic fractures.

While daily subcutaneous injections of teriparatide are typically given for 2 years in patients taking the agent for the approved indications, 6 months of therapy appears to be "more than adequate" for fracture healing per se because the healing occurs so quickly, he continued.

This is a high-cost drug. Its off-label use to accelerate fracture healing requires a highly motivated patient willing to take on a substantial out-of-pocket expense. The one situation where Dr. Knecht has consistently found third-party payers willing to cover teriparatide for augmentation of fracture healing is in transplant patients.

"I treat a lot of transplant patients. Fracture is actually a big cause of death in transplant patients, so we can pretty much get anything we need covered for those people," according to Dr. Knecht, who is on the speakers' bureau for Eli Lilly & Co., which markets teriparatide.

Teriparatide is the only anabolic or bone-building agent on the market. It targets osteoblasts. In contrast, antiresorptive agents slow the rate of bone mineral loss by mediating osteoclast activity. ■