BONE

Teriparatide in sequential osteoporosis treatment

A European trial of sequential treatment for osteoporosis shows a benefit of extending the use of the anabolic drug teriparatide to 2 years. Furthermore, this research demonstrates that any prior treatment with antiresorptive drugs, such as bisphosphonates, only minimally attenuates the positive effects of teriparatide on BMD.

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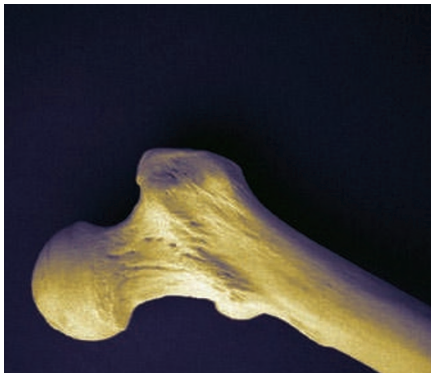
This trial was driven by the need to answer two clinical questions. "Firstly, we wanted to know whether the initial treatment with teriparatide can be followed up with an antiresorptive and what are the effects of this sequence," says Richard Eastell, Professor of Bone Metabolism and Head of the Academic Unit of Bone Metabolism, University of Sheffield, UK. "Secondly, what happens to the BMD of prior antiresorptive users when the duration of teriparatide treatment is extended for another 6 months beyond the recommended 18 months?"

In the trial, postmenopausal women with severe osteoporosis received teriparatide plus calcium and vitamin D supplements. After 12 months, women were randomly assigned one of three follow-up treatments: a second year of teriparatide, a change to the antiresorptive drug, raloxifene, or discontinuation of teriparatide and continuation of calcium and vitamin D alone. Women who had been treated previously with antiresorptive drugs were an important subgroup, as teriparatide is rarely used as first-line therapy.

Progressive increases in BMD occurred at the hip and spine of women who received teriparatide for 2 years, but BMD decreased during the second study year in the group who were receiving only supplements. "A second year of anabolic therapy with teriparatide was superior to a switch to raloxifene, which was, in turn, superior to calcium and vitamin D alone," summarizes Eastell. Importantly, prior use of antiresorptive drugs only blunted the positive effects of teriparatide initially. In patients who had previously used antiresorptive agents, extending teriparatide treatment of 2 years—instead of the usual 18 months—was beneficial. These patients "...gained about as much additional BMD at the hip during the last 6 months of treatment as they had gained in the prior 18 months," explains Eastell.



The findings support current guidelines for use of teriparatide in patients who fail to respond to standard treatments for osteoporosis (or who are intolerant of them). The results could also broaden therapeutic options for such patients. As Eastell points out, "we know that we can use raloxifene after teriparatide treatment to maintain benefit; this may be helpful when the patient is unable to tolerate bisphosphonates."

Carol Wilson

Original article Eastell, R. *et al.* Sequential treatment of severe postmenopausal osteoporosis following teriparatide: final results of the randomized, controlled European Study of Forsteo (EUROFORS). *J. Bone Miner. Res.* doi:10.1359/jbmr.081215 (2008).