Zoledronic acid linked to early increase in sclerostin levels

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(HealthDay)—Women with postmenopausal osteoporosis treated with zoledronic acid show an early increase in serum levels of the negative regulator of bone formation, sclerostin, that return close to baseline after 360 days, according to a study published online April 17 in the *Journal of Clinical Endocrinology & Metabolism*.

Antonino Catalano, M.D., Ph.D., from the University of Messina in Italy, and colleagues randomized 40 women (mean age, 62.6 years) with postmenopausal osteoporosis to receive 5 mg zoledronic acid or placebo. Serum levels of sclerostin, bone specific alkaline phosphatase (BSAP;

marker of bone formation), and serum C-telopeptide of type 1 collagen (CTX; marker of bone resorption), were measured at baseline and after two, seven, 30, and 360 days.

The researchers found that, for those taking zoledronic acid, sclerostin serum levels had already increased at day two. These levels peaked at three-fold baseline at day seven; decreased at day 30; and returned close to baseline after 360 days. In the zoledronic acid group, CTX and BSAP were reduced at all time points. In addition, at all time points a significant negative correlation between the percentage changes of sclerostin and the variation of BSAP and CTX was observed. There were no changes in the placebo group.

"Our data demonstrate that zoledronic acid increases sclerostin serum levels and sclerostin could play a role in coupling bone resorption to bone formation," the authors write.

More information: Abstract
Full Text (subscription or payment may be required)