

The Reply



I read with interest the letter to the editor from Jamieson in regard to using denosumab in a patient with anorexia nervosa.¹

The stark reality is that of all the litany of medical complications associated with anorexia nervosa, one of the only ones that can cause permanent harm, even after successful weight restoration, is osteoporosis. It is a highly prevalent problem in anorexia nervosa, which begins early in the course of the disease and affects female and male adult and adolescent patients with anorexia nervosa.

This is especially important because the peak age of onset of anorexia nervosa occurs during the period of late adolescence, when 60% of peak bone mass is normally accrued. Therefore, failure to achieve maximum bone mass as a result of the hypogonadal state associated with anorexia nervosa results in a 3-fold increase and risk of subsequent bone fractures both in adolescence and in the adult years.^{2,3}

The exact etiology of the aggressive loss of bone mineral density associated with anorexia nervosa is not known. Putative causative factors include hypogonadism, elevated cortisol levels, low leptin levels, elevated inflammatory cytokine and sclerostin levels, and growth hormone resistance.⁴ Moreover, the pathophysiology of the reduced bone mineral density in anorexia nervosa is unique and different from postmenopausal osteoporosis, in that it involves both increased bone resorption as well as decreased bone formation.

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To date treatment options have been limited. Oral estrogen is not effective, and although bisphosphonates have shown efficacy in anorexia nervosa, there is concern about their usage in women of childbearing ages. Therefore, there is understandable excitement about the potential utility in this population of denosumab, the novel antiresorptive drug, which seems to be safe, efficacious, and easy to use. However, at this time there are only anecdotal reports of its efficacy in anorexia nervosa. Our group has also prescribed it in a few patients with anorexia nervosa, with positive results similar to those reported by Jamieson.

Denosumab, along with teriparatide, may offer hope to treat the osteoporosis of anorexia nervosa along with weight restoration and resumption of menses. However, future research is sorely needed to define the optimal treatment that is effective for promoting bone formation and optimizing peak bone mass acquisition, especially in adolescents with anorexia nervosa.

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