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ABSTRACT

Purpose

Osteoporosis and associated fractures are major concerns for patients with systemic rheumatic diseases on long-term glucocorticoid therapy. Bisphosphonates, a class of drugs that inhibit osteoclast-mediated bone resorption, increase bone mineral density (BMD) and reduce the frequency of vertebral fractures, but they are associated with poor adherence. The effects of monthly oral minodronate on patients' satisfaction, BMD, and bone turnover markers were investigated in patients with systemic rheumatic diseases on glucocorticoids and weekly oral alendronate or risedronate.

Methods

A total of 145 study patients with systemic rheumatic diseases on oral glucocorticoids and weekly alendronate 35 mg or risedronate 17.5 mg were randomly assigned either to switch to minodronate 50 mg every 4 weeks or to continue the currently taking weekly bisphosphonate for 52 weeks after a 24-week run-in period.

Patients were stratified by hospital site, sex, and menopausal status in women at enrollment. The primary endpoint was the difference between the proportions of patients who responded very satisfactory or satisfactory for the current bisphosphonate therapy at weeks 48 and 76 between the two groups. Secondary endpoints included percentage changes in lumbar spine BMD and bone turnover markers from the time of starting allocated treatment.

Results

Monthly minodronate was superior to weekly alendronate or risedronate for patients' satisfaction, the increase of lumbar spine BMD, and suppression of serum tartrate-resistant acid phosphatase 5b at week 76.

Conclusions

Monthly minodronate is more acceptable and may be more effective than weekly alendronate or risedronate for prevention and treatment of bone loss in patients with systemic rheumatic diseases on glucocorticoid therapy.