

BONE

Once-yearly zoledronic acid ameliorates glucocorticoid-induced bone loss

Yearly infusion of zoledronic acid is as good as, and possibly even better than, daily oral risedronate for prevention and treatment of bone loss as a result of glucocorticoid therapy, according to the HORIZON (Health Outcomes and Reduced Incidence with Zoledronic acid ONce yearly) investigators.

Bone loss and increased fracture risk are common features of glucocorticoid therapy. Oral bisphosphonates are approved for prevention and treatment of glucocorticoid-induced osteoporosis; however, compliance with frequent oral dosing regimens is poor. Once-yearly infusion of the potent intravenous bisphosphonate, zoledronic acid, provides a potential solution to this problem.

HORIZON was a 1 year, multicenter, randomized, double-blind, double-dummy, noninferiority study. The team,

led by osteoporosis expert David Reid (University of Aberdeen, UK), enrolled 833 patients who were receiving glucocorticoids to treat inflammatory disease. Participants were given a single intravenous infusion of zoledronic acid plus daily oral placebo or a single intravenous infusion of placebo plus daily oral risedronate. Two intervention subgroups (treatment and prevention) were defined on the basis of duration of glucocorticoid use. The primary end point was change from baseline in lumbar spine BMD.

“A noninferiority study design was used to show equivalence of an existing licensed drug—risedronate—with zoledronic acid,” comments Reid. “Having proved noninferiority, the analysis plan allowed assessment of superiority.”

The key finding of HORIZON was superiority of zoledronic acid over risedronate in terms of improvement of BMD at the lumbar spine and other sites in both the treatment and prevention subgroups. Vertebral fracture risk was more or less eliminated with either drug; however, this finding might reflect the relatively normal baseline BMD and young age of the participants.

The results of HORIZON seem fairly conclusive and no plans exist for an extension study. “The drug is now licensed for this indication in the USA and will shortly be licensed in Europe,” Reid concludes.

Original article Reid, D. M. *et al.* Zoledronic acid and risedronate in the prevention and treatment of glucocorticoid-induced osteoporosis (HORIZON): a multicentre, double-blind, double-dummy, randomised controlled trial. *Lancet* 373, 1253–1263 (2009).