TARGETED THERAPIES

Denosumab benefits men on long-term ADT

The standard first-line therapy for metastatic prostate cancer is androgen deprivation therapy (ADT), which results in improved disease-free and overall survival. Prolonged use of such therapy, however, is associated with reduced bone mineral density and an increased risk of fracture. Smith and colleagues have recently shown that treatment with denosumab (a fully human monoclonal antibody against receptor activator of nuclear factor κB) improved bone mineral density and reduced the number of fractures in men receiving ADT for prostate cancer.

> “...biannual administration of denosumab is associated with increased bone mineral density”

This randomized, multicenter, double-blind, placebo-controlled study randomly assigned men with nonmetastatic, hormone-sensitive prostate cancer to 60 mg denosumab subcutaneously every 6 months ($n = 734$) or placebo ($n = 734$). The main end point was the change from baseline in bone mineral density at the lumbar spine after 24 months of treatment.

Treatment with denosumab was associated with increased bone mineral density at the lumbar spine, femoral neck and hip. At 24 months, the bone mineral density at the lumbar spine had increased by 6.7% in denosumab-treated men compared with the placebo group. At 12, 24 and 36 months, the use of denosumab was associated with a decrease in incidence of new fractures. The incidence of adverse events was similar for both groups.

The authors conclude that biannual administration of denosumab is associated with increased bone mineral density and reduced rate of fractures in men treated with androgen deprivation for prostate cancer.

Mandy Aujla

Original article Smith, M. R. *et al.* Denosumab in men receiving androgen-deprivation therapy for prostate cancer. *N. Engl. J. Med.* **361**, 745–755 (2009).