



Cost-effectiveness model of using zoledronic acid once a year versus current treatment strategies in postmenopausal osteoporosis

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OBJECTIVES:

To compare effectiveness, associated cost of outcomes and cost-effectiveness of a single annual infusion of zoledronic acid versus current treatment strategies plans for postmenopausal osteoporosis in France.

METHODS:

Twelve simulation-based models were built to investigate three types of fractures: vertebral (VF), non-vertebral excluding hip (NVF) and hip (HF), comparing two groups: zoledronic acid and current postmenopausal antiosteoporotic treatment strategies. Two effectiveness comparability assumptions have been tested: specific agent efficacy values, and same standard efficacy values for all active agents. Direct medical costs included drug costs, medical visits, monitoring and fracture management. Adherence levels were integrated into the model under the assumption that non-adherent patients had treatment effects similar to the levels of placebo effectiveness.

RESULTS:

Using the most conservative assumption (same standard efficacy values for all active agents), zoledronic acid strategy results in less vertebral, non-vertebral and hip fractures than other current antiosteoporotic treatment options over 3 years: 12.04% vs. 14.18%, 10.61% vs. 11.28% and 2.82% vs. 4.64% respectively, ($p < 0.001$). In addition, zoledronic acid is more cost-effective than the current treatment strategies in all types of fractures ($p < 0.001$): 1497 euros vs. 1685 euros per VF avoided, 1337 euros vs. 1404 euros per NVF avoided and 1216 euros vs. 1323 euros per HF avoided.

CONCLUSION:

Zoledronic acid is a cost-effective treatment strategy regardless of fracture type or effectiveness comparability assumptions.

Résumé en anglais

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