

Risedronate was effective and well tolerated in postmenopausal women with osteoporosis

Harris ST, Watts NB, Genant HK, et al., for the Vertebral Efficacy with Risedronate Therapy (VERT) Study Group. Effects of risedronate treatment on vertebral and nonvertebral fractures in women with postmenopausal osteoporosis. A randomized controlled trial. JAMA. 1999 Oct 13;282:1344-52.

QUESTION

Is risedronate effective and safe in reducing vertebral and nonvertebral fractures in postmenopausal women with osteoporosis?

DESIGN

Randomized {allocation concealed*}†, blinded (investigators, patients, outcome assessors),* placebo-controlled trial with 3-year follow-up.

SETTING

110 centers in North America.

PATIENTS

Women < 85 years of age (mean age 69 y, 96% white) who were ambulatory, had been postmenopausal for ≥ 5 years, and had either ≥ 2 vertebral fractures or 1 vertebral fracture and low bone mineral density of the lumbar spine. Exclusion criteria were conditions or drugs known to affect bone metabolism.

INTERVENTION

After stratification by number of baseline vertebral fractures, women were allocated to

receive oral risedronate, 2.5 mg/d ($n = 811$ [this group was discontinued at 1 year]) or 5 mg/d ($n = 813$), or placebo ($n = 815$) for 3 years. All women received calcium, 1 g/d, and those with baseline 25-hydroxyvitamin D levels < 40 nmol/L were given vitamin D, up to 500 IU/d.

MAIN OUTCOME MEASURES

New vertebral and nonvertebral fractures and adverse effects.

MAIN RESULTS

Kaplan-Meier analysis for new vertebral fractures included 84% of women at 3 years. Women who received risedronate had lower rates of new vertebral fractures ($P = 0.003$) and nonvertebral fractures

($P = 0.02$) than did those who received placebo (Table). The groups did not differ for adverse effects.

CONCLUSION

Risedronate was effective and well tolerated for reducing new vertebral and nonvertebral fractures in postmenopausal women with osteoporosis.

Sources of funding: Procter and Gamble Pharmaceuticals and Hoechst Marion Roussel.

For correspondence: Dr. S.T. Harris, University of California, San Francisco, 350 Parnassus Avenue, Suite 706, San Francisco, CA 94117-3608, USA.

*See Glossary.

†Information supplied by author.

Risedronate, 5 mg/d, vs placebo in postmenopausal women with osteoporosis†

Outcomes at 3 y	Risedronate	Placebo	RRR (95% CI)	NNT (CI)
New vertebral fracture	11%	16%	41% (18 to 58)	20 (11 to 111)
Nonvertebral fracture	5%	8%	39% (6 to 61)	32 (17 to 250)

†Abbreviations defined in Glossary; NNT and CI supplied by the author.

COMMENTARY

Risedronate joins an increasing number of strategies for the prevention of fractures in women with postmenopausal osteoporosis. Other therapies include estrogen, estrogen-like agents (natural and synthetic), parathyroid hormone and estrogen, bisphosphonates, calcitonins, and certain combinations of these interventions.

Inclusion criteria and primary outcomes in the study by Harris and colleagues are similar to those in a previous alendronate study (1). However, vertebral fracture is defined in this study as a 15% decrease in vertebral height instead of 20% as in the alendronate study, thus including patients with less vertebral deformity in the "previous fracture" group. The incidence of first-year vertebral fracture (as defined by the 15% criterion) decreased in patients who received risedronate, which was a positive early outcome. In addition, even with inclusion of patients with previous symptoms, the number of gastrointestinal events was similar in treatment and placebo groups.

Risedronate is not approved for regular prescription in the United States and Canada for fracture prevention in postmenopausal osteo-

porosis, but may be available as a treatment for postmenopausal osteoporosis in the near future. Risedronate therapy, and other therapies for the prevention of fractures in postmenopausal women, should always be accompanied by adequate calcium and vitamin D intake (2).

Susan F. Silverton, MD, PhD
University of Pennsylvania
Philadelphia, Pennsylvania, USA

References

1. Liberman UA, Weiss SR, Broll J, et al. Effect of oral alendronate on bone mineral density and the incidence of fractures in postmenopausal osteoporosis. The Alendronate Phase III Osteoporosis Treatment Study Group. N Engl J Med. 1995;333:1437-43.
2. Dawson-Hughes B, Harris SS, Krall EA, Dallal GE. Effect of calcium and vitamin D supplementation on bone density in men and women 65 years of age or older. N Engl J Med. 1997;337:670-6.