

The effect of bisphosphonate on prevention of glucocorticoid-induced osteoporosis

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Abstract

Background: Glucocorticoid therapy can induce osteoporosis. Bone mineral density (BMD) measurement has been used to assess the risk of fracture in these patients. The most important mechanism is diminished bone formation mainly at the sites with trabecular bone. The objective of this study is to evaluate the effect of alendronate on prevention of glucocorticoid-induced osteoporosis. Methods: During 18 months, in a prospective clinical trial, 72 patients with autoimmune disease were randomly divided into 2 equal groups. Group 1 (n=36) was treated with oral vitamin-D, 50000 IU twice weekly and calcium, 500 mg twice daily. Group 2 (n=36) was treated with oral vitamin-D, 50000 IU twice weekly, calcium, 500 mg twice daily, and alendronate, 10 mg per day. The patients were followed clinically, undergoing densitometry and X-ray of the spine and hip area for 18 months. Results: Change of BMD in the lumbar spine after 18 months of therapy was -1/67% and +2.4% in groups 1 and 2, respectively. Change in femoral neck BMD was -2.1% in group 1 and +1.8% in group 2. Conclusion: The administration of alendronate plus vitamin D and calcium was more effective in preventing bone loss due to glucocorticoid-induced osteoporosis than vitamin-D and calcium alone. © Iranian Red Crescent Society.

Author keywords

Autoimmune disease; Bisphosphonate; Calcium; Glucocorticoid-induced osteoporosis; Vitamin D

Indexed Keywords

EMTREE drug terms: alendronic acid; calcium; glucocorticoid; vitamin D

EMTREE medical terms: adult; article; autoimmune disease; bone density; cervical spine radiography; clinical trial; combination chemotherapy; controlled clinical trial; controlled study; corticosteroid induced osteoporosis; densitometry; drug megadose; female; femur neck; fragility fracture; hip fracture; hip radiography; human; lumbar spine; major clinical study; male; monotherapy; osteolysis; vertebra fracture

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