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Compliance with pharmacologic therapy for osteoporosis

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Background: There is little information available concerning compliance with therapy for osteoporosis.

Methods: We evaluated 176 consecutive previously untreated women whose physicians initiated treatment for osteoporosis following a bone mineral density (BMD) test obtained as part of routine medical practice. All patients were contacted ≥ 1 year after the initial BMD test and offered a followup BMD. Compliance with therapy was defined as the percent of time that a patient filled a prescription for estrogen (ERT), bisphosphonate, or calcitonin.

Results: 93(53%) patients received ERT, 93(53%) bisphosphonates, 8(5%) calcitonin; 17(10%) received more than one therapy. 91 of the 176 (52%) agreed to a followup BMD at a mean of 590 days after the first study (participants); 85 declined a followup BMD (refusers). Participants and refusers were similar for age (mean age 64 years vs 63 years), treatment patterns (bisphosphonate therapy for 57% vs 48%), and compliance with therapy (68% versus 65%). For all patients, compliance for those given bisphosphonate was similar to those given ERT (70.5% (95% CI 63.1-77.9%) vs 68.5% (95% CI 60.6-76.4%). The change in spine BMD was similar for those treated with bisphosphonate (mean increase 3.42(\pm 2.52)%/y) and those treated with ERT (mean increase 3.05(\pm 2.66)%/y). For those 54 participants whose compliance with therapy was $\geq 66\%$, the mean increase in spine and hip BMD were 3.87(\pm 2.66)%/y and 2.61(\pm 2.31)%/y, respectively, compared to 2.29(\pm 2.44)%/y ($p=0.006$) and 1.26(\pm 1.52)%/y ($p=0.004$) for those whose compliance was $<66\%$. Compliance with therapy and baseline spine BMD were significant predictors of percent change in spine BMD but age was not a significant predictor. Compliance with therapy was the only significant predictor of percent change in hip BMD.

Conclusions: Compliance with ERT and bisphosphonate therapy initiated after a BMD was similar over a mean of 590 days. Compliance less than 66% with drug treatment results in suboptimal improvement in bone density. Additional studies should address reasons for lack of compliance with therapy.