

Abstract

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Treatment with 50,000 IU vitamin D2 every other week and effect on serum 25-hydroxyvitamin D2, 25-hydroxyvitamin D3, and total 25-hydroxyvitamin D in a clinical setting.

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OBJECTIVE: To examine the effect of 50,000 IU-vitamin D2 supplementation in a clinical setting on serum total 25-hydroxyvitamin D (25[OH]D), 25-hydroxyvitamin D2 (25[OH]D2), and 25-hydroxyvitamin D3 (25[OH]D3).

METHODS: This retrospective cohort study was performed in an urban tertiary referral hospital in Boston, Massachusetts. Patients who had been prescribed 50,000 IU vitamin D2 repletion and maintenance programs were identified through a search of our electronic medical record. Baseline and follow-up total serum 25(OH)D, 25(OH)D2, and 25(OH)D3 levels were compared.

RESULTS: We examined the medical records of 48 patients who had been prescribed 50,000 IU vitamin D2 in our clinic. Mean \pm standard deviation baseline total 25(OH)D was 31.0 ± 10.6 ng/mL and rose to 48.3 ± 13.4 ng/mL after treatment ($P < .001$). 25(OH)D2 increased from 4.2 ± 4.3 ng/mL to 34.6 ± 12.3 ng/mL after treatment ($P < .001$), for an average of 158 days (range, 35-735 days). Serum 25(OH)D3 decreased from 26.8 ± 10.8 ng/mL to 13.7 ± 7.9 ng/mL ($P < .001$).

CONCLUSIONS: Fifty thousand IU vitamin D2 repletion and maintenance therapy substantially increases total 25(OH)D and 25(OH)D2 despite a decrease in serum 25(OH)D3. This treatment program is an appropriate and effective strategy to treat and prevent vitamin D deficiency.

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