Evaluation of vitamin D repletion regimens to correct vitamin D status in adults.

Submitted by sejudd on Mon, 09/08/2014 - 3:25pm

Title: Evaluation of vitamin D repletion regimens to correct vitamin D status in adults.
Publication Type: Journal Article
Year of Publication: 2009
Authors: Pepper, KJ, Judd, SE, Nanes, MS, Tangpricha, V
Journal: Endocr Pract
Volume: 15
Issue: 2
Pagination: 95-103
Date Published: 2009 Mar
ISSN: 1934-2403
Keywords: Aged, Drug Administration Schedule, Ergocalciferols, Female, Humans, Male, Middle Aged, Retrospective Studies, Treatment Outcome, Vitamin D, Vitamin D Deficiency

Abstract

OBJECTIVE: To determine the efficacy and safety of commonly prescribed regimens for the treatment of vitamin D insufficiency.

METHODS: We performed a retrospective analysis of 306 consecutive patients who were prescribed ergocalciferol (vitamin D2) for correction of vitamin D insufficiency at the Atlanta Veterans Affairs Medical Center between February 2003 and May 2006. Serum levels of parathyroid hormone, 25-hydroxyvitamin D (25-OHD), and calcium were compared before and after treatment with ergocalciferol. Patients who did not have a 25-OHD determination (n = 41) were excluded from analysis. Vitamin D deficiency, insufficiency, and sufficiency were defined as a serum 25-OHD level of <20 ng/mL, 21 to 29 ng/mL, and ≥30 ng/mL, respectively.

RESULTS: We identified 36 discrete prescribing regimens. The 3 most common regimens were ergocalciferol 50,000 IU once weekly for 4 weeks followed by 50,000 IU once monthly for 5 months (n = 48); ergocalciferol 50,000 IU once monthly for 6 months (n = 80); and ergocalciferol 50,000 IU 3 times weekly for 6 weeks (n = 27). Each of these 3 treatments significantly increased serum 25-OHD (P<.01), but vitamin D sufficiency was achieved in only 38%, 42%, and 82% of study subjects, respectively. Regimens with >600,000 IU of ergocalciferol given for a mean of 60 +/- 40 days achieved sufficiency in 64% of cases, without vitamin D toxicity.

CONCLUSION: In this study, regimens that contained at least 600,000 IU of ergocalciferol
appeared to be the most effective in achieving vitamin D sufficiency. Guidelines for the treatment of vitamin D insufficiency in healthy adults should be developed.

DOI: 10.4158/EP.15.2.95
Alternate Journal: Endocr Pract
PubMed ID: 19342361
PubMed Central ID: PMC2683376
Grant List:
- K23 AR054334 / AR / NIAMS NIH HHS / United States
- K23 AR054334-02 / AR / NIAMS NIH HHS / United States
- K23AR054334 / AR / NIAMS NIH HHS / United States