primary studies - published RCT

A Prospective, Randomized, Double-Blind, Parallel-Group, Comparative Effectiveness Clinical Trial Comparing a Powder Vehicle Compound of Vitamin D With an Oil Vehicle Compound in Adults With Cystic Fibrosis.

Code: PM26903303 **Year:** 2016 **Date:** 2016 **Author:** Hermes WA

Study design (if review, criteria of inclusion for studies)

Double-blind, randomized controlled, Parallel-Group, Comparative Effectiveness trial

Participants

15 hospitalized adults with CF. The median (interquartile range) age, body mass index, and forced expiratory volume in 1 second were 23.7 (19.9-33.2) years, 19.9 (18.6-22.6) kg/m2, and 63% (37%-80%), respectively.

Interventions

Patients were given a one-time bolus dose of 100,000 IU of cholecalciferol (D3) in a powder-based or oil-based vehicle.

Outcome measures

Serum D3, 25-hydroxyvitamin D, and parathyroid hormone concentrations were analyzed at 0, 12, 24, and 48 hours posttreatment. The area under the curve for serum D3 and the 12-hour time point were also assessed as indicators of D3 absorption.

Main results

The increase in serum D3 and the area under the curve was greater in the powder group (P = .002 and P = .036, respectively). Serum D3 was higher at 12 hours in the powder group compared with the oil group (P = .002), although levels were similar between groups by 48 hours.

Authors' conclusions

In adults with CF, cholecalciferol is more efficiently absorbed in a powder compared with an oil vehicle. Physicians should consider prescribing vitamin D in a powder vehicle in patients with CF to improve the absorption of vitamin D from supplements.

http://dx.doi.org/10.1177/0148607116629673

See also

JPEN J Parenter Enteral Nutr. 2016 Feb 22.

Keywords

Bone Density Conservation Agents; Bone Diseases; Gastrointestinal Diseases; Pancreas insufficiency; Pancreatic Diseases; pharmacological_intervention; Supplementation; vitamins; Vitamin D; Vitamin D Deficiency; Vitamin deficiencies; Malabsorption; Powders;