



QUICK SEARCH:		[advanced]
	Author:	Keyword(s):
Go		
Year:	Vol:	Page:

HOME HELP FEEDBACK SUBSCRIPTIONS ARCHIVE SEARCH TABLE OF CONTENTS

American Journal of Clinical Nutrition, Vol. 86, No. 6, 1694-1699, December 2007 © 2007 American Society for Nutrition

ORIGINAL RESEARCH COMMUNICATION

Vitamin D insufficiency in children, adolescents, and young adults with cystic fibrosis despite routine oral supplementation^{1,2,3}

Alisha J Rovner, Virginia A Stallings, Joan I Schall, Mary B Leonard and Babette S Zemel

¹ From the Divisions of Gastroenterology, Hepatology and Nutrition (AJR, VAS, JIS, and BSZ) and Nephrology (MBL), Department of Pediatrics, The Children's Hospital of Philadelphia, and the the Department of Biostatistics and Epidemiology, Center for Clinical Epidemiology and Biostatistics (MBL), University of Pennsylvania School of Medicine, Philadelphia, PA

Background: Cystic fibrosis (CF) with pancreatic insufficiency is associated with poor absorption of fat and fat-soluble vitamins, including vitamin D. Pancreatic enzyme supplementation does not completely correct fat malabsorption in CF patients.

Objective: The objective of the study was to compare the vitamin D status of children, adolescents, and young adults with CF who were treated with routine vitamin D and pancreatic enzyme supplements with the vitamin D status of a healthy reference group from a similar geographic area.

Design: Growth, dietary intake, and serum concentrations of 25-hydroxyvitamin D [25 (OH)D], 1,25-dihydroxyvitamin D [1,25(OH)₂D], and parathyroid hormone (PTH) were measured in 101 white subjects with CF and a reference group of 177 white subjects.

Results: The median daily vitamin D supplementation in the CF group was 800 IU. The mean \pm SD serum concentrations of 25(OH)D were 20.7 \pm 6.5 ng/mL in the CF group and 26.2 \pm 8.6 ng/mL in the reference group (P < 0.001). Vitamin D deficiency and insufficiency were defined as 25(OH)D concentrations < 11 ng/mL and < 30 ng/mL, respectively. Seven percent of the CF group and 2% of the healthy reference group were vitamin D deficient (P < 0.03). Ninety percent of the CF group and 74% of the healthy reference group were vitamin D insufficient (P < 0.01). Twenty-five percent of the CF group and 9% of the healthy reference group had elevated PTH (P < 0.006). The odds of vitamin D insufficiency in the CF group, compared with the healthy reference group, were 1.2 (95% CI: 1.1, 1.3) after adjustment for season

Conclusion: Despite daily vitamin D supplementation, serum 25(0H)D concentrations remain low in children, adolescents, and young adults with CF.

Key Words: Cystic fibrosis • vitamin D • fat-soluble vitamins • children • adolescents • young adults

This Article

- Full Text
- Full Text (PDF)
- Purchase Article
- View Shopping Cart
- Alert me when this article is cited
- Alert me if a correction is posted
- ▶ Citation Map

- Similar articles in this journal
- Similar articles in PubMed
- Alert me to new issues of the journal
- Download to citation manager
- C Get Permissions

Liting Articles via Google Scholar

Google Scholar

- Articles by Rovner, A. J
- Articles by Zemel, B. S.
- Search for Related Content

PubMed

- ▶ PubMed Citation
- Articles by Rovner, A. J
- Articles by Zemel, B. S

Agricola

- Articles by Rovner, A. J
- Articles by Zemel, B. S

and age.