Controlled Trial of 1alpha-Hydroxycholecalciferol in Chronic Renal Failure.

Tougaard L, Sorensen E, Brochner-Mortensen J, Christiansen MS, Rodero P, Sorensen AWS. *The Lancet, 1976; May 15 edition, 1044-1047.*

Abstract/Summary

24 patients with chronic renal failure (glomerular filtration-rate [G.F.R.] 5-25 ml/min) participated in a double-blind placebo-controlled trial of the effects of 1 alpha-H.C.C.) 1 µg daily for eleven weeks. This treatment induced significant increases in the intestinal absorption of calcium and in plasma-calcium which reached normal levels within two weeks. It also induced a significant reduction of the raised serum levels of parathyroid hormone. No significant changes were induced in plasma-phosphorus, plasma-alkaline-phosphatase, or in the degree of bone mineralization as measured by the phosphorus/hydroxyproline ratio in bone. The bone mineral content in the forearm measured by photon absorptiometry decreased to the same extent in the 1 alpha-H.C.C. groups and in the placebo group. The fall in G.F.R. over eleven weeks was 2.5 times greater in the 1 alpha-H.C.C. group than in the placebo group, but this difference was not significant. It is concluded that 1 alpha-H.C.C. treatment in chronic renal failure does not affect the progressive loss of calcium from bone despite normalization of plasma-calcium.