

# Abstract

Curr Med Res Opin. 2011 Jul 6. [Epub ahead of print]

## Vitamin D deficiency, myositis-myalgia, and reversible statin intolerance.

Glueck CJ, Budhani SB, Masineni SS, Abuchaibe C, Khan N, Wang P, Goldenberg N.

Cholesterol Center, Jewish Hospital of Cincinnati, Cincinnati, OH, USA.

**OBJECTIVE:** In 150 hypercholesterolemic patients, unable to tolerate  $\geq 1$  statin because of myositis-myalgia, selected by low ( $< 32$  ng/ml) serum 25 (OH) vitamin D, we prospectively assessed whether vitamin D supplementation with resolution of vitamin D deficiency would result in statin tolerance, free of myositis-myalgia.

**RESEARCH DESIGN AND METHODS:** We studied 74 men, 76 women, median age 60, 131 white, 17 black and 2 other. On no statins, 50,000 units of vitamin D was given twice a week for 3 weeks, and then continued once a week. After 3 weeks on vitamin D, statins were restarted. Patients were re-assessed on statins and vitamin D every 3 to 4 months, with serial measures of serum 25 (OH) vitamin D, creatine phosphokinase (CPK), LDL cholesterol (LDLC) and assessment of myositis-myalgia.

**MAIN OUTCOME MEASURES:** Percentage of patients myalgia-free on vitamin D plus reinstated statins, serum 25 (OH) vitamin D, CPK, and LDLC on reinstated statins and concurrent vitamin D supplementation.

**RESULTS:** On vitamin D supplementation plus re-instituted statins for a median of 8.1 months, 131 of the 150 patients (87%) were free of myositis-myalgia and tolerated the statins well. Serum 25 (OH) vitamin D increased from median 21 to 40 ng/ml ( $p < 0.001$ ), and normalized ( $\geq 32$  ng/ml) in 117 (78%) of 150 previously vitamin D deficient, statin-intolerant patients. Median LDLC decreased from 146 mg/dl to 95 mg/dl,  $p < 0.001$ .

**CONCLUSION:** Symptomatic myositis-myalgia in hypercholesterolemic statin-treated patients with concurrent serum 25 (OH) vitamin D deficiency may reflect a reversible interaction between vitamin D deficiency and statins on skeletal muscle causing myalgia.

PMID: 21728907