Abstract


Effects of vitamin D on plasma lipid profiles in statin-treated patients with hypercholesterolemia: A randomized placebo-controlled trial.

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BACKGROUND & AIDS: Lipid abnormalities are regarded as a risk factor for cardiovascular disease. Low vitamin D status has been shown to be associated with hyperlipidemia. We planned to research the effects of vitamin D supplementation as an adjuvant therapy for patients with hypercholesterolemia.

METHODS: Patients with hypercholesterolemia were enrolled in this single-center, double-blind, placebo-controlled trial in Beijing (39°54’ N). Fifty-six patients were randomly assigned to receive vitamin D (n = 28, 2000 IU/d) or a placebo (n = 28) as an add-on to statin, by the method of permuted block randomization. Serum lipid levels were evaluated at baseline, 1, 3 and 6 months.

RESULTS: Vitamin D supplementation resulted in increased serum 25-hydroxyvitamin D concentrations compared with placebo (+16.3 ± 11.4 compared with +2.4 ± 7.1 ng/ml; p < 0.001). At 6 months, the primary end point, a difference in the fall of serum total cholesterol levels between the vitamin D and placebo groups after 6 months of treatment was significant -22.1 mg/dl (95% CI -32.3; -12.2) (p < 0.001). The difference between the groups in the fall of serum triglyceride levels after 6 months of treatment was -28.2 mg/dl (95% CI -48.8; -8.4) (p < 0.001). In patients with 25-hydroxyvitamin D level<30 ng/ml at baseline (n = 43), the serum total cholesterol and triglyceride levels were reduced by -28.5 ± 11.9 mg/dl (p < 0.001) and -37.1 ± 19.5 mg/dl (p < 0.001), respectively.

CONCLUSIONS: Vitamin D supplementation might improve serum lipid levels in statin-treated patients with hypercholesterolemia, it might be an adjuvant therapy for patients with hypercholesterolemia.

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