

Double-Blind, Placebo-Controlled Study of the Effects of LifePak® Supplementation on Antioxidant Status, Free Radical Activity and Resistance to LDL-Oxidation.

C.R. Smidt, Ph.D.,¹ D.L. Woehler, R.D.,² R.J. Seidehamel, Ph.D.,³ S. Devaraj, Ph.D.,⁴ I. Jialal, M.D., Ph.D.⁴

ABSTRACT

Objective: The present study investigated whether LifePak® , a comprehensive optimum potency multiple nutrient supplement, can improve antioxidant status, decrease free radical activity, and improve resistance to LDL-oxidation in healthy volunteers.

Design: One-hundred-fifty non-smokers, ages 18-65 years, were recruited in the Houston, Texas area. Subjects were not taking any other dietary supplements and consumed typical American diets with less than 5 servings of fruits and vegetables. Seventy-five subjects were supplemented with LifePak® and another 75 subjects received placebo (each in 2 packets of 3 capsules each daily) for 6 weeks.

Measurements: Blood and urine samples were taken at the start and end of the supplementation period and analyzed for serum antioxidant nutrients, such as vitamin C, vitamin E, carotenoids and vitamin A, as well as serum oxygen radical absorption capacity, and markers of free radical damage, including serum total alkenals, hydroperoxides, and urinary alkenals, 8-hydroxyguanosine, and 8-epi-PGF₂∇. Plasma samples were prepared for LDL (low-density lipoprotein) oxidizability assays.

Results: LifePak® supplementation significantly improved antioxidant status as evidenced by increased serum levels of ∃-carotene (from 0.236±0.200 µg/ml to 0.461±0.245 µg/ml; p<0.001), ∇-carotene (from 62±54 ng/ml to 355±194 ng/ml; p<0.001), and vitamin E (∇-tocopherol, from 8.94±2.06 µg/ml to 15.96±5.21 µg/ml, p<0.001), with no changes in the placebo group. LifePak® significantly increased total serum oxygen radical absorption capacity by 5.0% (p<0.05) and lowered serum total alkenals by 9.6% (p<0.001). LifePak® effectively improved LDL's resistance to oxidation, as the lag time was prolonged by about 18% (from 46.0±10.2 min to 54.5±13.9 min; p<0.001).

Conclusions: LifePak® supplementation for 6 weeks significantly increased antioxidant status, reduced serum alkenals, and improved LDL resistance to oxidation in healthy non-smokers consuming typical U.S. diets.

¹ Interior Design Nutritionals, Nu Skin Enterprises, Provo, UT

² Research for Health, Inc., Houston, TX

³ RJS Consulting, Evansville, IN

⁴ Center for Human Nutrition and Dept. of Pathology,
The University of Texas Southwestern Medical Center, Dallas, TX