Vitamin C Supplementation Does Not Alter the Immune Response to 2.5 Hours of Running


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This randomized, double-blind, placebo-controlled study was designed to determine the influence of vitamin C supplementation on the immune response to 2.5 hr of high-intensity running. Twelve experienced marathon runners (VO2max 51.6 ± 1.5 ml·kg⁻¹·min⁻¹, age 40.5 ± 2.0 years) were randomized into vitamin C (1,000 mg/day for 8 days) or placebo groups. On the test day, subjects ran at 75-80% VO2max for 2.5 hr, with five blood samples taken before and for 6 hr after. Blood samples were analyzed for cortisol and catecholamines; leukocyte subsets; interleukin-6; natural killercell activity; lymphocyte proliferation as induced by concanavalin A, phytohemagglutinin, and pokeweed mitogen; and granulocyte phagocytosis and activated oxidative burst. Compared with placebo, vitamin C supplementation had no significant effect on the pattern of change in any of these hormonal or immune measures following 2.5 hr of intensive running.