

Atherosclerosis abstract Hiroshige

Title;Multivitamin and
Carotenoid
Supplements

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Abstract;Vitamins are regarded as essential nutrients for health and maintain stable tissue environments. Vitamins and carotenoids have multiple roles both as participants in many important metabolic processes throughout the body and to counter the oxidative stress resulting from normal metabolism and daily exposure to environmental agents. Epidemiological studies have consistently indicated that the consumption of vegetables and fruits is inversely related to the incidence of cardiovascular and cerebrovascular diseases and cancer. Although the majority of vitamins and carotenoids are derived from these foods, foods of animal origin also contribute supplementation of these nutrients. Marine animals supply astaxanthin which is a carotenoid and antioxidant. We studied the effects of astaxanthin on in vitro and ex vivo LDL oxidation. Astaxanthin prolonged dose-dependently the oxidation lag time compared with the control. For the ex vivo study 24 volunteers consumed astaxanthin at doses of 1.8, 3.6, 14.4, 21.6 mg per day for 14 days. LDL lag time was longer in the groups who intaked astaxanthin compared with day 0, but there was no difference in oxidation of LDL in the control group. Our results provide evidence that consumption of marine animals producing astaxanthin inhibits LDL oxidation and possibly therefore contributes to the prevention of atherosclerosis.