

The Aging/Precancerous Gastric Mucosa

A Pilot Nutraceutical Trial

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ABSTRACT: The aim of this study was to test the effect of antioxidant supplementation on enzymatic abnormalities and free radical-modified DNA adducts associated with premalignant changes in the gastric mucosa of elderly patients with HP-negative atrophic gastritis (CAG). Sixty patients with atrophic gastritis and intestinal metaplasia underwent a nutritional interview and a gastroscopy with multiple biopsy samples in the antrum that were processed for histology and for assaying: alpha-tocopherol, MDA, xanthine oxidase (XO), ornithine decarboxylase (ODC), and 8-OHdG. Patients were randomly allocated into three matched groups and supplemented for 6 months with (1) vitamin E, 300 mg/day; (2) multivitamin, two tablets t.i.d.; and (3) Immun-Age 6 g/day nocte (ORI, Gifu, Japan), a certified fermented papaya preparation with basic science-validated antioxidant/immunomodulant properties. Ten dyspeptic patients served as controls. Histology and biochemistry were blindly repeated at 3 and 6 months. CAG patients showed a significantly ($P < .05$) increased level of mucosal MDA and XO concentration that were reverted to normal by each supplementation ($P < .05$). All supplements caused a significant decrease of ODC ($P < .01$), but Immun-Age yielded the most effective ($P < 0.05$) and was the only one significantly decreasing 8-OHdG ($P < 0.05$). These data suggest that antioxidant supplementation, and, namely, Immun-Age, might be potential chemopreventive agents in HP-eradicated CAG patients and especially in the elderly population.

KEYWORDS: oxidative stress; atrophic gastritis; ODC activity; 8-OHdG; antioxidants