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Serum Antioxidative Vitamins Levels and Dietary Habits in Korean Stomach Cancer Patients

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Stomach cancer is the most prevalent malignant tumor registered in Korea. In the present study, antioxidative vitamin and malondialdehyde levels in serum in Korean stomach cancer patients were compared with their age matched healthy subjects. General characteristics such as smoking, alcohol consumption, dietary habits including taste preference were investigated by self-administered questionnaire. Blood samples from the stomach cancer patients in scheduled surgical operation of the tumor site were collected and prepared for serum. Ascorbic acid, alpha-tocopherol, beta-carotene, and retinol in serum were determined by high-performance liquid chromatography. Serum malondialdehyde level was also analyzed spectrophotometrically. Significant decrease in serum ascorbic acid and beta-carotene were observed in stomach cancer patient compared to the control. Alpha-tocopherol was slightly decreased in the cancer patients compared to the control, however there was no difference of retinol between the groups. Serum malondialdehyde level in the cancer patients was significantly higher than that of the control. The antioxidative vitamin levels were not affected by hot taste preference itself among the patients, but tended to decrease in the patients with preference of intensive salty and spicy taste. Our results demonstrate that a strong link exists between stomach cancer and serum ascorbic acid, beta carotene levels, and lipid peroxidation.