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A Preliminary Study of DNA Damage in Peripheral Lymphocytes from Lung Cancer Patients and Healthy Subjects

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Abstract: A pilot study was undertaken to investigate the differences in oxidative DNA damage and 2-h DNA repair in peripheral lymphocytes between lung cancer patients and healthy subjects. Twenty-four lung cancer patients and 23 normal controls were recruited from the Queen Mary Hospital, Hong Kong SAR, China. Single cell gel electrophoresis (comet assay) was performed to measure the oxidative damage, repair and baseline of peripheral lymphocytes in the subjects. There were no significant differences in baseline DNA damage and oxidative stress damage and DNA repair at 2 h among the two groups of lung cancer patients who had blood taken before and those who had blood taken after chemotherapy, and normal subjects. There were no differences in basal DNA, oxidative DNA damage or DNA repair between those with and without vitamin supplements in normal subject diets. Our results demonstrated that oxidative DNA damage in lymphocytes is not associated with the risk of lung cancer.

Key Words: Comet assay, DNA damage, Lung cancer, Lymphocyte

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