



Relationship between genetic polymorphisms in *MCP-1*, *CCR-2*, and non-small-cell lung cancer in the Han nationality of Northern China

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ABSTRACT. Lung cancer is a common malignant tumor worldwide and is now the leading cause of cancer-related deaths. Monocyte chemoattractant protein 1 (*MCP-1*) and its receptor chemokine receptor 2 (*CCR-2*) are important chemokines. We examined the polymorphisms of 338 unrelated patients with non-small cell lung carcinoma (NSCLC) and 200 unrelated healthy controls of Han nationality in Northern China using polymerase chain reaction-restriction fragment length polymorphism. We found a significant increase in the frequency of the *MCP-1* AA genotype [0.293 vs 0.195, odds ratio (OR) = 1.71, 95% confidence interval (CI) = 1.13-2.60] and a significant decrease in the frequency of the GG genotype (0.290 vs 0.41, OR = 0.64, 95%CI = 0.47-0.87) in NSCLC patients compared to controls. The frequencies of AA-ww (0.151 vs 0.090, P = 0.041, OR = 1.80, 95%CI = 1.33-2.43) and AA-wm (0.136 vs 0.080, P = 0.049, OR = 1.81, 95%CI = 1.01-3.27) were higher in lung cancer patients than in healthy controls; the frequency of GG-wm (0.121 vs 0.190, P = 0.030, OR = 0.60, 95%CI

= 0.38-0.95) was lower in lung cancer patients than in healthy controls. Based on these results, the polymorphism in *MCP-1* may be correlated with the development of NSCLC in the Han nationality of Northern China. However, the polymorphism in *CCR-2* is not involved in NSCLC.

Key words: Chemokine receptor 2; Monocyte chemoattractant protein 1; Non-small cell lung carcinoma; Polymorphism