

Relationship between genetic polymorphism of MCP-1 and non-small-cell lung cancer in the Han nationality of North China

L. Yang¹, G.L. Shi², C.X. Song² and S.F. Xu¹

¹Department of Thoracic Surgeon,
Beijing Tuberculosis and Thoracic Tumor Research Institute, Beijing, P.R. China

²Department of Clinical Immunology Laboratory,
Beijing Tuberculosis and Thoracic Tumor Research Institute, Beijing, P.R. China

Corresponding author: S.F. Xu

E-mail: xushaofa@263.net

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ABSTRACT. Monocyte chemoattractant protein 1 (MCP-1) is an important chemokine that has a dose-dependent anti-tumoral effect. Polymorphism in the MCP-1 distal regulatory region (-2518A/G) can affect the level of MCP-1 expression. We examined the polymorphisms of 112 unrelated patients with non-small-cell lung cancer (NSCLC) and 82 unrelated healthy controls of Han nationality in North China using PCR-RFLP. We found that the distributions of AA, AG and GG genotypes of MCP-1-2518 were significantly different in NSCLC patients compared to controls ($\chi^2 = 10.106$, $P = 0.006$). There was a significant increase in the frequency of the AA genotype (odds ratio (OR) = 3.138, $\chi^2 = 8.905$, $P = 0.003$) and a significant decrease in the frequency of the GG genotype (OR = 0.516, $\chi^2 = 4.613$, $P = 0.032$) in the NSCLC patients, compared to controls. The frequencies of AA, AG and GG genotypes did not differ in the NSCLC patients according to the number of pack-years smoked. Based on these results, we suggest that the MCP-1 -2518A/G polymorphism is associated with genetic susceptibility to NSCLC.

Key words: Non-small-cell lung cancer; MCP-1; Gene frequency