Role of VEGF gene polymorphisms in the clinical outcome of non-small cell lung cancer

N. Chen, C.N. Ma, M. Zhao and Y.J. Zhang

Department of Respiration, Huaihe Hospital of Henan University, Kaifeng, China

Corresponding author: Y.J. Zhang
E-mail: zhang_yj15@163.com

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ABSTRACT. This report details a study conducted to assess the role of VEGF gene polymorphisms in the prognosis of advanced non-small cell lung carcinoma (NSCLC). Samples obtained from 210 advanced NSCLC patients admitted at the Huaihe Hospital of Henan University between January 2010 and December 2011 were recruited for this study. The VEGF -2578C/A (rs699947), +936C/T (rs3025039), and -634G/C (rs2010963) genotypes were analyzed by polymerase chain reaction-restriction fragment length polymorphism. We discovered, by logistic regression analysis, that the TT genotype of VEGF +936C/T was associated with more complete response + partial response to chemotherapy, compared to the CC genotype (odds ratio (OR) = 4.78, 95% confidence interval (CI) = 1.34-25.85). We also found a correlation between the TT genotype of VEGF +936C/T and lower risk of death from all causes compared to the CC genotype (OR = 0.26, 95%CI = 0.10-0.69), using the Cox proportional hazard model (after adjusting for potential confounding factors). In conclusion, we discovered that the VEGF +936C/T gene polymorphism influences the response to chemotherapy and overall survival of NSCLC patients.

Key words: VEGF; Polymorphism; Non-small cell lung cancer; Clinical outcome