Investigation on the role of XPG gene polymorphisms in breast cancer risk in a Chinese population

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ABSTRACT. We conducted a case-control study to investigate the role of XPG gene polymorphisms (rs2094258, rs751402, and rs17655) in the development of breast cancer. Patients with breast cancer (320) and control subjects (294) were consecutively selected from the Zhongshan Hospital between April 2013 and January 2015. The genotyping of XPG rs2094258, rs751402, and rs17655 was performed using polymerase chain reaction-restriction fragment length polymorphism. Using the chi-square test, we did not find any significant differences in the genotype distributions of XPG rs2094258 (χ² = 1.48, P = 0.48), rs751402 (χ² = 0.65, P = 0.72), and rs17655 (χ² = 0.01, P = 0.92) genes between breast cancer patients and control subjects. The genotype distributions of XPG rs2094258, rs751402, and rs17655 did not deviate from the Hardy-Weinberg equilibrium in control subjects, and the P values were 0.58, 0.97, and 0.26, respectively. Using unconditional logistic regression...
In analysis, we found that XPG rs2094258, rs751402 and rs17655 gene polymorphisms are not associated with the development of breast cancer after adjusting for potential confounding factors. In conclusion, we found that XPG rs2094258, rs751402, and rs17655 do not influence the development of breast cancer in a Chinese population.

**Key words:** XPG; Polymorphism; Breast cancer; Chinese population