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HLA-A24 is an unfavorable clinical prognostic factor in patients with stage III~IV (advanced) nasopharyngeal carcinoma

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Abstract

Association of human leukocyte antigen (HLA) with nasopharyngeal carcinoma (NPC) susceptibility has been widely studied; however, the role of HLA alleles in NPC clinical prognosis has been seldom reported. In this study, we assessed prognostic value of HLA alleles in NPC patients. The study was based on 231 clinicopathologically characterized NPC cases from the Chaoshan Han population. Binary logistic regression was used to analyze the correlation between HLA-A or -B alleles, and clinicopathologic characteristics. Survival curves and estimations were carried out using the Kaplan-Meier method, with the log-rank test applied to detect differences between groups. The significance of various variables for survival was analyzed by the Cox proportional hazards model in univariate and multivariate analysis. A significant association of HLA-A24 allele and NPC at stage III~IV was observed. Specifically, patients carrying HLA-A24 allele showed a poorer prognosis than those carrying no HLA-A24 allele (log-rank P=0.029). Multivariate analysis demonstrated that HLA-A24 was an independent prognostic factor (P=0.016, HR=1.825, 95% CI=1.117-2.981) for NPC at stage III~IV. Besides, Cox analysis demonstrated that age, smoking, clinical stage, and N-, M-classification were independent factors that affected the survival period (P≤0.05). This is the first study that evaluated prognostic value of HLA alleles for NPC. The HLA-A24-positive group showed an unfavorable prognosis in NPC patients at stage III~IV, indicating that HLA-A24 is a negative prognostic factor, which may serve as a potential biomarker for the prediction of clinical outcome in NPC patients.

Biography

Shengping Hu has earned her MD from Tongji Medical University, China and Ph.D. from Sydney University, Australia, and completed her postdoctoral studies from Harvard and Boston University Medical Schools. She is a faculty member and Professor in Molecular Biology and forensic genetics in Shantou University Medical College of China. Her research interest includes DNA polymorphism in genetic susceptibility to cancers, particularly HLA polymorphisms and nasopharyngeal and esophageal carcinomas, two cancers with high prevalence in certain areas in south China. She is state-certified for DNA parentage testing and her laboratory also embarks on research related to the forensic molecular genetics.