Genotype distribution of T cell receptor β gene in Indonesian nasopharyngeal carcinoma patients

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Abstrak

Latar belakang: Karsinoma nasofaring (KNF) merupakan penyakit genetik multifaktorial, bersifat endemik dan mempunyai perbedaan signifikan dalam distribusi geografi s. Selain faktor virus Epstein Barr (EBV), insiden KNF juga dipengaruhi oleh faktor genetik seperti polimorfi sme gen reseptor sel T lokus β (TCR-β). Penelitian ini bertujuan untuk mengetahui hubungan polimorfi sme gen TCR-β dengan suseptibilitas individu untuk berkembang menjadi KNF pada populasi Indonesia. Metode: Penelitian dilakukan dengan teknik PCR-RFLP menggunakan enzim restriksi Bgl II pada gen TCR-β. Analisis PCR-RFLP gen TCR-β digunakan untuk mendeterminasi alotip gen TCR-β pada penderita KNF dan kontrol dan pada kelompok etnis Cina dan pribumi dalam populasi Indonesia. Hasil: Hasil penelitian menunjukkan bahwa distribusi alotip gen TCR-β pada penderita KNF dan kontrol tidak berbeda bermakna (p > 0,05). Frekuensi alel A meningkat pada penderita KNF. Distribusi alotip gen TCR-β antara etnis Cina dan kelompok pribumi tidak memperlihatkan perbedaan bermakna (p> 0,05). Kesimpulan: Distribusi alel gen TCR-β antara kelompok KNF dengan kelompok kontrol tidak menunjukkan perbedaan. Distribusi alel gen TCR-β antara etnis Cina dan pribumi tidak menunjukkan perbedaan. Polimorfi sme gen TCR-β tidak berhubungan dengan KNF dan etnis pada populasi Indonesia.

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Abstract

Background: Nasopharyngeal carcinoma (NPC) is a multifactorial genetic disease, characteristically endemic and shows considerable differences in its geographical distribution. Besides infection with EBV, genetic factors such as polymorphisms of TCR-β gene contribute to the incidence of NPC. This study investigates the association of TCR-β gene polymorphisms with individual susceptibility to develop NPC in Indonesian ethnic groups. Methods: The study was carried out by the PCR-RFLP method using Bgl II restriction enzyme to digest TCR-β gene. The PCR-RFLP analysis of TCR-β gene was used to determine allotypes of TCR-β gene in NPC patients and control among ethnic Chinese and indigenous groups in the population of Indonesia. Results: The results indicate that the distribution of TCR-β gene allotypes between NPC patients and controls are not signifi cantly different (p > 0.05); however, the frequency of A allele tends to increase in NPC patients. The distribution of TCR-β gene allotypes between Chinese ethnic group was not signifi cantly different from indigenous groups (p > 0.05). Conclusion: The distribution of TCR-β gene allele between NPC group and control groups showed no difference. The distribution of TCR-β gene between ethnic Chinese and indigenous groups showed no difference. Polymorphisms of TCR-β gene are not associated with NPC and ethnic groups in Indonesian population.