Detection of Epstein-Barr virus gene products, p53 protein and bcl-2 protein in nasopharyngeal carcinoma.

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Research Project

Project/Area Number

06454485

Research Category

Grant-in-Aid for General Scientific Research (B)

Allocation Type

Single-year Grants

Research Field

Otorhinolaryngology

Research Institution

Kanazawa University

Principal Investigator

FURUKAWA Mitsuru Kanazawa University, School of Medicine, Professor, 医学部, 教授 (40092803)

Co-Investigator(Kenkyū-buntansha)

NISHIMURA Toshiro Kanazawa University, School of Medicine, Assistant, 付属病院, 助手 (80251958)
TANAKA Saichiro Kanazawa University, School of Medicine, Assistant, 医学部, 助手 (30242522)

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NPC / EBV / EBERS / BHLF1 / p53 / bcl-2 / p53

Research Abstract

Nasopharyngeal carcinoma (NPC), an epithelial tumor which is characterized by marked geographic and population differences in incidence, is consistently associated with the Epstein-Barr virus (EBV). Within the tumor, the EBV DNA is homogeneous and clonal with regard to repeat

sequences suggesting that the tumor is also clonal.
In this work we examined to detect EBV in formalin-fixed paraffin-embedded NPC specimens by using both polymerase chain reaction (PCR) for EBV-DNA and in situ hybridization for EBV-encoded small RNAs (EBERs). EBV-DNA was detected in none of 3 keratinizing squamous cell carcinomas (SCC), 22 of 24 non-keratinizing carcinomas (NKC), all 13 undifferentiated carcinoma (UNPC) and none of 2 adenocarcinomas (AC). EBERs was detected in none of 5 SCC,30 of 32 NKC,16 of 17 UNPC and none of 2 AC.As an additional study in situ hybridization using BHLF oligonucleotide probes and immunohistochemistry using monoclonal antibodies against LMP1, EBNA2, BZLF1 protein, p53 protein and bcl-2 protein were performed in 56 primary NPC.LMP1 was detected in 17 cases (30%) whereas EBNA2 was not detectable. Bcl-2 protein was positive in 50 cases (89%), but its expression did not depend on expression of LMP1, which did not demonstrate induction of bcl-2 by LMP1 as seen in vitro. Cytoplasmic BZLF1 expression was detectable in 18 cases (32%) whereas BHLF was positive only in 6 cases (11%). This finding suggests BZLF1 which disrupts viral latency dysfunctions despite of its expression. p53 protein was positive in 31 cases (55%), and there was a distinct correlation between expression of BZLF1 and p53 protein ($p<0.001$). This finding suggests the interaction between BZLF1 and p53 which inactivates each other is one of tumorigenic factor in NPC

Research Products (17 results)

All | Other

All | Publications (17 results)

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