EBウイルス転写調節因子Z蛋白に対する抗体価測定法の開発とその意義に関する研究

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1997 Fiscal Year Final Research Report Summary

Quantitative analysis of Epstein-Barr virus immediate-early proteins and evaluation of its clinical role especially in nasopharyngeal

Research Project

Project/Area Number

08457450

Research Category

Grant-in-Aid for Scientific Research (B)

Allocation Type

Single-year Grants

Section

一般

Research Field

Otorhinolaryngology

Research Institution

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NPC / EBV / BZLF1 / BRFL1 / Western blotting / ELISA

Research Abstract

Nasopharyngeal carcinoma (NPC), an epithelial tumor which is characterized by marked geographic and population differences in incidence, is found to be associated with Epstein-Barr virus (EBV) by serologic evidence, and the relationship was confirmed by the detection of EBVDNA and EB-encoded RNAs in NPC cells. Elevation of IgG and IgA antibodies against EBV viral capsid antigen and early antigen are often found in NPC patients. Serologic tests of these antibodies have been recognized astumor markers for NPC.EBV persists in a latent form in both epithelial cells and B lymphocytes. A variety of stimulation may activate a virus. The Z protein and the R protein, which are immediate early proteins of the EBV lytic cycle, control the switch of the virus from a latent to a lytic cycle by transactivating several early promoters. But a lytic cycle is sometimes incomplete in tumor. Z protein and R protein are expressed earlier than EA or VCA,so anti-Z,-R antibody titers will be more sensitive markers for NPC. Plasmid presenting BZLF1 or BRLF1 gene were produced, and Z protein and R protein were harvested. Sera from patients with NPC,infectious monomucleosis (IM), non-Hodgkin's lyumphoma (NHL), head and neck carcinoma and healthy controls are examined for its reactivity against Z and R protein by Western blotting and ELISA.NPC patients before treatment all indicated high anti-Z,-R antibody titers, whereas in three NPC patients without recurrence, only one (33%) was positive. IM patients all indicated no anti-Z,-R antibodies. Several patients of other diseases have anti-Z,-R antibodies, but their titers were low. In comparison with anti-VCA antibodies, ant-Z,-R antibodies were specific to NPC.A NPC patients whose anti-VCA antibodies were negative indicated high anti -Z,-R antibody titers, and a NHL patient who shows elevation of anti-VCA antibody titer was negative in anti-Z,-R antibodies. These findings suggest that the anti-Z,-R antibody titers are useful markers for NPC.

Research Products (18 results)

All Other

All Publications (18 results)

[Publications] 竹下 元 他: "上咽頭早期癌の診断と治療" Johns. 13(4). 619-624 (1997)

[Publications] 脇坂 尚宏: "上咽頭癌におけるEpstein-Barrウイルス関連因子および血管新生因子発現に関する研究" 金沢大学十全医学会雑誌. 106(1). 105-115 (1997)

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