

子宮頸癌発生に関係するタイプのヒトパピローマウイルスに対する血清診断法の開発

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1997 Fiscal Year Final Research Report Summary

The development of serological test detecting antibodies against oncogenic human papillomaviruses by ELISA

Research Project

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08671877

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Grant-in-Aid for Scientific Research (C)

Allocation Type

Single-year Grants

Section

一般

Research Field

Obstetrics and gynecology

Research Institution

Kanazawa University

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HPV / VLP / ELISA / cervical cancer

Research Abstract

Immunoglobulins A and G (IgA and IgG) responses against HPV 16 virus-like particles (VLP) were tested by ELISA in 100 women with cervical lesions, 26 atypical cells of undetermined significance (ASCUS) and 14 cytologically normal women with HPV DNA. As controls, 130 age-matched cytologically normal women with no HPV DNA were selected from the population in which the cases generated. The existence of HPV DNA in cervical samples were tested by PCR-based method. Normal women positive with HPV 16 DNA were followed up at 4-7 months intervals for 16-24 months. IgA and IgG antibodies against HPV 16-VLP were frequently detected in these women repeatedly positive for HPV16 DNA, suggesting that the persistent HPV infection is crucial for effective antibody responses against the viruses. IgA response appears earlier and persist longer than IgG response. Women with HPV DNA of types 16,31/33/35,58 and unknown types showed significantly higher seropositivity for both IgA and IgG antibodies than the controls ($P < 0.05$ for both). No significant seropositivity for IgA nor IgG was detected in HPV 18/45-DNA positive group. HPV 31/33/35,58 appear to be close types to HPV 16, whereas HPV 18/45 to be distinct to HPV 16 in antigenicity. IgA and IgG responses against HPV 16-VLP were more frequently observed in women with normal cervixes with HPV DNA, ASCUS, HSIL and cervical cancer than in the controls. High serological responses were dependent on HPV 16-infection in HSIL and cervical cancer cases, although the association between serological responses and HPV types were not apparent in the more benign changes such as ASCUS and LSIL. Antibody positive reflects persistent viral infection that may increase the risk for malignant progression of the cervix. Thus this serological assay using HPV 16-VLP may be useful as a new diagnostic tool supplementing cervical cytological tests.

Research Products (15 results)

All Other

All Publications (15 results)

- [Publications] Toshiyuki Sasagawa: "Serological Responses to human papillomavirus types 6 and 16 virus-like particles" Clinical Diag. Labo. Immunology 4. 4. 403-410 (1996) ▼

- [Publications] Toshiyuki Sasagawa: "Human papillomavirus Infection and risk determinwnt for squamous intraepithelial lesions and cervical cancer in Japan." Jpn.J.Cancer Res. 88. 376-384 (1997) ▼

- [Publications] Toshiyuki Sasagawa: "Immunogloburins A and G responses against virus-like particles (VLP) of human papillomavirus type 16 in women with cervical cancer and cervical intraepithelial lesions." Int.J.Cancer. 75. 529-535 (1998) ▼

- [Publications] T.Noda, T.Sasagawa: "Detection of human papillomavirus (HPV) DNA in archival specimens of benign prostatic hyperplasia and prostatic cancer using a highly sensitive-nested PCR method." Urological Research. (in press). (1998) ▼

- [Publications] Y.Dong, T.Sasagawa: "Human papillomavirus, C.Trachomatis infection and other risk factors associated with cervical cancer in China." Int.J.Clinical Oncol. (in press). ▼

- [Publications] 笹川 寿之、井上 正樹: "HPVによる子宮頸部発癌と宿主免疫応答" 産婦人科治療、永井書店、433-446 (1997) ▼

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- [Publications] M.Shimakage, T.Sasagawa: "Involvement of Epstein-Barr virus expression in testicular tumors." J.Urology. 156. 253-257 (1996) ▼

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[Publications] Toshiyuki Sasagawa: "Human papillomavirus capsid protein-pREP in Schizosaccharomyces pombe : Efficient assembly of the viral capsid protein in S.pombe and C.cerevisiae." Yuko Giga-Hama Foreign Gene Expression in Fission Yeast Schizosaccharomyces pombe. LANDES BIOSCIENCE. 123-132 (1997) ▼

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