子宮体部の多段階発癌に関わる遺伝子群の解析とその遺伝子治療の検討

著者	井上 正樹
著者別表示	Inoue Masaki
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Analysis of gene alterations associated with endometrial cancers and the target of the gene therapy

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Allocation Type

Single-year Grants

Section

一般

Research Field

Obstetrics and gynecology

Research Institution

Kanazawa University (1995-1996)
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Principal Investigator

INOUE Masaki Kanazawa University, School of Medicine, Professor, 医学部, 教授 (10127186)

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Keywords

Gynecologic cancer / Oncogene / Anti-oncogenes / DNA repair genes / Telomerase / Gene therapy / Endometrial cancer / Multistep carcinogenesis

Research Abstract

Recent advances in molecular biology have allowed us to study cancer at the level of individual genes. Such works have led to the theory of multistep carcinogenesis.

The present study showed that activation of oncogenes, inactivation of tumor-suppresor genes, inactivation of mismatched-DNA repair genes and infection of human papillomavirus were closely involved in the carcinogenesis of uterine endometrium. Alterations of Ras, p53, DCC,P16, C-kit/SCF,RB were totally found in 17/26 (65%) G1 adenocarcinmas, 5/7 (71%) G2 adenocarcinomas and 12/13 (92%) G3 adenocarcinomas. However, the each abnormality of a single gene is quite low in its incidence.
A frequent genetic change which takes place in carcinogenesis should be choosed as the target molecule of gene therapy. Our modified non-RI TRAP (telomeric repeat amplification protocol) assay found that the telomerase activation was common (more than 90%) in endometrial cancer and was a critical step in their pathogenesis. Then, in the present time, the best target of gene therapy might be a telomerase molecule.

Research Products (19 results)

All Other

All Publications (19 results)

[Publications] Kyo S, et al.: "Teromerase activity in human endometrium" Cancer Res. (in press). (1997)

[Publications] Kyo S, et al.: "Teromerase activity in gynecologic tumors." Clin Cancer Res. 2,. 2023-2028 (1996)

[Publications] Enomoto T, et al.: "Alteration of the p53 tumor supressor gene and activation of the c-K-ras-2 protooncogene in endometrioid adenocarcinoma of the uterus" Am J Clin Pathol. 103. 224-230 (1995)

[Publications] Fujita M, et al.: "Association of humann papillomavirus with malignant premalignant lesions of the uterine endometrium." Hum Pathol. 26. 650-658, (1995)

[Publications] Inoue M, et al.: "A case control study on risk factors for uterine endometrial cancer" Jpn J Cancer Res,. 85. 346-350 (1994)

[Publications] Inoue M, et al.: "Clinicopathological characteristics of p53 overexpression in endometrial cancer." Int J Cancer. 58. 14-19 (1994)

[Publications] Kitagawa K,et al.: "Epithelial-mesencymal transformation of a newly established cell line from ovarian adenocarcinoma by transforming growth factor-beta 1" Int J Cancer. 66. 91-97 (1996)

[Publications] Fujita M,et al.: "Application of clonal analysis" Am J Clin Pathol. 105. 350-359 (1996)

[Publications] Enomoto T,et al.: "Alteration of the p53 tumor supressor gene and activation of the c-K-ras-2 protooncogene in endometrioid adenocarcinoma of the uterus : comparison between samples from Colorado, USA and Osaka, Japan" Am J Clin Pathol. 103. 224-230 (1995)

[Publications] Enomoto T,et al.: "Loss of expression and loss of heterozygosity in the DCC gene in neoplasms of the human reproductive tract." Br J Cancer. 71. 426-467 (1995)

[Publications] Enomoto T,et al.: "Alteration of the p53 tumor suppressor gene and activation of c-k-ras-2 protooncogene in endometrial adenocarcinoma from colorado." Am J Clin Pathol. 103. 224-230 (1995)

[Publications] Fujita M,et al.: "Microsatellite instability and alterations in the HMSH2 gene in human ovarian cancer." Int J cancer. 64. 361-366 (1995)

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[Publications] Inoue M,et al.: "Coexpression of the c-kit receptor and the stem cell factor in gynecologic tumors." Cancer Res. 54. 3049-3053 (1994)

[Publications] Inoue M,et al.: "Immunohistochemical analysis of p53 in gynecologic tumors." Am J Clin Pathol. 102. 665-670 (1994)

[Publications] Inoue M,et al.: "Clinicopathological characteristics of p53 overexpression in endometrial cancer." Int J Cancer. 58. 14-19 (1994)

[Publications] Kyo S,et al.: "Teromerase activity in gynecologic tumors." Clin Cancer Res. 2. 2023-2028 (1996)

[Publications] Kyo S,et al.: "Teromerase activity in human endometrium" Cancer Res. (in press). (1997)