Angiogenic switch in the development of colon cancer

2000 Fiscal Year Final Research Report Summary

Angiogenic switch in the development of colon cancer

Research Project

Project/Area Number

11671217

Research Category

Grant-in-Aid for Scientific Research (C)

Allocation Type

Single-year Grants

Section

一般

Research Field

Digestive surgery

Research Institution

Kanazawa University

Principal Investigator

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Project Period (FY)

1999 – 2000

Keywords

angiogenesis / colon cancer / VEGF / PD-ECGF / MMP-7 / angiogenic switch

Research Abstract

We have already reported that vessel count, vascular endothelial growth factor (VEGF) produced by cancer cell and platelet derived endothelial cell growth factor (PD-ECGF) produced by infiltrating cells correlate with metastasis in human colon cancer. We studied whether there is anigiogenic switch in the development of colon cancer. We studied vessel count, VEGF, another angiogenic factor, basic figroblast growth factor (bFGF) and matrix metalloproteinase (MMP)-7 which is well known to be important for colon cancer, expressions in cancer cells and PD-ECGF expression in infiltrating cells in 25 adenomas, 35 mucosal cancers (in situ), 29 submucosal invasive cancers (sm) and 33 muscle propria invasive cancers (mp) by immunostaining.
The vessel density was 12.7Å}6.7 (SD) in adenoma, 11.8Å}8.3 in in situ, 35.0Å}17.5in sm, and 35.2Å}18.8 in mp. There was significant difference between in situ and sm ($p<0.001$). The intensity of VEGF expression was 0.6Å}0.4, 0.9Å}0.7, 1.7Å}0.9, and 1.8Å}0.8, respectively. There was also significant difference between in situ and sm ($p<0.001$). There were also significant differences in the intensity of the expression of MMP-7 and PD-ECGF between in situ and sm shown as table.
These results suggest that angiogenic switch "on" may occur between in situ and sm, in other word, start of invasion, in the development of colon cancer.

Research Products (3 results)

All Other

All Publications

[Publications] Takahashi Y, et al: "DFMO induces apoptosis as well as anti-angiogenesis in the inhibition of tumor growth and Metastasis"Int.J.Cancer. 85. 243-247 (2000)

[Publications] 高橋豊: "癌治療の新たな戦略Tumor Dormany Therapy"医学書院,東京. 1-172 (2000)

[Publications] Takahashi Y, Mai M and Nishioka K: "α-Difluoromethylornithine Induces Apoptosis as well as Anti-angiogenesis in the Inhibition of Tumor Growth and Metastasis in a Human Gastric Cancer Model."International Journal of Cancer. 85. 243-247 (2000)

URL: https://kaken.nii.ac.jp/report/KAKENHI-PROJECT-11671217/116712172000kenkyu_seika_hokoku_

Published: 2002-03-25