# 口腔扁平上皮癌の浸潤増殖動態に関する研究


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# 1995 Fiscal Year Final Research Report Summary

## Studies of invasive and proliferative activity of oral squamous cell carcinoma

Research Project

### Project/Area Number

06454567

### Research Category

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

### Allocation Type

Single-year Grants

### Research Field

Surgical dentistry

### Research Institution

Kanazawa University

### Principal Investigator

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### Project Period (FY)

**1994 – 1995**

### Keywords

Orthotopic implantaion / Invasion and metastasis / Oral squamous cell carcinoma / Type IV collagen / Desmoglein / Proliferating cell nuclear antigen / Matrix metalloproteinase

### Research Abstract

We devised a new model in order to establish an in vivo model for human oral carcinoma that exhibits significant local invasion and metastasis. In the present study, we examined the invasive sctivity of five kinds of oral squamous carcinoma cells (OSC-19, OSC-20, SS, FA and TT) by this new

model. The nude mice had tumor cells from one of five oral squamous cell carcinoma cells implanted into the tongue or the oral floor via an intra-oral route and, as a control, the subcutaneous tissue of the back. The back tumors showed a benign growth pattern, lacking significant invasion of surrounding tissues. In contrast, the tumors implanted into the tongue or the oral floor exhibited invasive growth and stromal reactions, the histological appearance of which was similar to that of the original tumors. Moreover, the regional neck lymph node and pulmonary metastases were observed in this model. Regional neck lymph node metastases were detected in 81.0% of mice implanted with OSC-19 cells. The oral tumor implanted with OSC-19 cells or TT cells showed a cords-like diffuse invasion pattern and was characterized by the abscence of a continuous basement membrane and by a reduction in the intercellular adhesion of carcinoma cells. These results suggest that the invasion of oral squamous cell carcinoma may be influenced by the tumor-stromal and/or intercellular interactions.

## Research Products (15 results)

All Other

All Publications (15 results)

[Publications] 山本悦秀、他: "口腔扁平上皮癌のin vivo浸潤・転移モデルにおける浸潤像の検討" 頭頸部腫瘍学会誌. 21. 17-22 (1995)

[Publications] Yamamoto E.et al.: "Immunohistologic distribution of basement membrane in oral squamous cell carcinoma." Head & Neck. 16. 58-63 (1994)

[Publications] Yamamoto E.et al.: "RoIe of preoperative chemotherapy for oral cancer from the viewpoint of mode of invasion." Asian Journal Orai Maxillofacial Surgery. 6. 113-121 (1994)

[Publications] Yamamoto E.et al.: "Clinical and experimental studies of mode of invasion in oral cancer." Oral Oncology. 4A. 33-36 (1995)

[Publications] Yamamoto E.et al.: "Immunolocazation of desmoglein and intermediate filaments in human oral squamous cell calircinomas." Head & Neck. 17. 204-212 (1995)

[Publications] Yamamoto E.et al.: "Development of a new invasion and metastasis model of human oral squamous cell carcinomas." Oral Oncology,European Journal of Cancer. 31B. 216-221 (1995)

[Publications] Kumagai, S., Imai, K., Nakagawa, K., Yamamoto, E., Nakanishi, I., Okada., Y.: "Immunohistologic distribution of basement membrane in oral squamous cell carcinoma." Head & Neck. 16. 58-63 (1994)

[Publications] Yamamoto, E., Kohama, G., Hiratsuka, H., Kumagai, S.: "Role of preoperative chemotherapy for oral cancer from the viewpoint of mode of invasion." Asian J Oral Maxillofac Surg.6. 113-121 (1994)

[Publications] Yamamoto, E.: "Clinical and experimental studies of mode of invasion in oral cancer." Oral Oncology, Vol.4A : Editor ; Varma, A.K.& Mori, M., Macmillan India Limited. 33-36 (1995)

[Publications] Nozaki, S., Endo, Y., Chatani, S., Kumagai, S., Nakagawa, K., Yamamoto, E., Tanaka, M., Sasaki, T.: "Plasminogen activation systemassociated with invasion and metastasis of head and neck tumor." Oral Oncology, Vol.4B : Editor ; Varma, A.K.& Mori, M., Macmillan India Limited. 145-148 (1995)

[Publications] Kawashiri, S., Kumagai, S., Kojima, K., Harada, H., Chatani, S., Yamamoto E.: "Experimental studies on the in vivo model for invasion and metastasis of oral squamous cell carcinoma. Part 1 : Establishment of orthotopic implantation model and investigation of invasive activity." Oral Oncology, Vol.4B : Editor ; Varma, A.K.& Mori, M., Macmillan India Limited. 279-282 (1995)

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[Publications] Chatani, S., Kawashiri, S., Kumagai, S., Kojima, K., Harada, H., Nozaki, S., Yamamoto E.: "Studies on the invasive activity of DMBA induced tongue carcinoma of the hamsters." Oral Oncology, Vol.4B : Editor ; Varma, A.K.& Mori, M., Macmillan India Limited. 287-290 (1995)

[Publications] Imai, K., Kumagai, S.Nakagawa, K., Yamamoto, E., Nakanishi, I., Okada, Y.: "Immuno-localization of desmoglein and intermediate filaments in human oral squamous cell carcinomas." Head & Neck. 17. 204-212 (1995)

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