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1 .Topic in Research Achievements in the Year 2006

BACKGROUND: Oral squamous cell carcinoma (OSCC) is common type of human cancer, but little is known about the molecular mechanisms deciding on this malignancy. Comprehensive gene expression profiling is essential for understanding OSCC. **METHODS:** cDNA microarray was used to analyze expression patterns of 16 617 genes in nine OSCC patients. **RESULTS:** Forty-seven genes with altered expression among all cases were extracted. The ontology of these 47 genes was classified into 10 categories. To validate the microarray data, the expression of genes, including TGFBI, FADD and DUSP1 was analyzed by reverse transcriptase-polymerase chain reaction (RT-PCR). By hierarchical clustering analysis, the nine cases were divided into two clusters. **CONCLUSIONS:** The 47 genes are suggested as having a functional significance in oral squamous cell carcinogenesis. It is also suggested that the gene expression patterns by hierarchical clustering analysis can represent degrees of differentiation. The postoperative recovery was uneventful and patients free from tumor after surgery. In the future, on the occasion when the time comes that the number of cases accumulated for microarray increases and each case is observed more over a long-term, these data of 5-year survival rate will be added. Thereby, it will become possible to represent the malignancy of OSCC by these gene expression patterns.

2 .Publications in the year 2006

1. A potential pitfall of MR imaging for assessing mandibular invasion of squamous cell carcinoma in the oral cavity.
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7. Papillary cystadenocarcinoma arising in the floor of the mouth: report of a case.
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 10. Long-term maxillomandibular skeletal and dental changes in children with cleft lip and palate after maxillary distraction. Harada K., Sato M., Omura K. *Oral Surg Oral Med Oral Pathol Oral Radiol Endod*: 102(3):292-299, 2006.
 11. Cyclin B1 is useful to predict occult cervical lymph node metastases in tongue carcinoma. Harada H., Omura K., Nakajima Y., Hasegawa S., Mogi S. *J Exp Clin Cancer Res* 25(3):351-356, 2006.
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 14. Multipotency of CD11b(high)Gr-1(+) immature myeloid cells accumulating in oral squamous cell-bearing mice. Tanaka K., Jinhua P., Omura K., Azuma M. *Oral Oncol* 2006.
 15. Teeth contacting habit as a contributing factor to chronic pain in patients with temporomandibular disorders. Sato F., Kino K., Haketa T., Anenomori Y., Ishikawa T., Shibuya T., Amagasa T., Shibuya T., Tanabe H., Yoda T., Sakamoto I., Omura K., Miyaoka H. *J Med Dent Sci* 53(2):103-109, 2006.
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3. Abstracts in the year 2006

1. Takayuki Nakagawa, Sana Yokoi, Jun Inoue, Atiphan Pimkhaokham, Emina Suzuki, Nobuyuki Kamata, Ken Omura, Issei Imoto, Johji Inazawa
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2. Gaichi Iino, Kenichi Nishimura, Daisuke Sato, Shouhei Kasugai and Ken Omura:
Effects of PGE1 Application on the Rat Incisal Sockets.: 84th General Session & Exhibition of the IADR, Brisbane, Australia, June 28- July 1, 2006
3. Y.Kaneda, J. Liu, Y. Yajima, H. Uematsu, K. Omura, N. Tsuchida : Caspase-8 premature termination mutation and the chemosensitivity in head and neck squamous cell carcinoma cell line with defective p53 function. 11th World Congress on Advances in Oncology and 9th International Symposium on Molecular Medicine. Crete, Greece. October 12-14, 2006.
4. Ayano Kaneoya, Shogo Hasegawa, Yoich Tanaka, Ken Omura. Quantitative Analysis of Invasive Front in Oral Squamous Cell Carcinoma using Ultrasonography. 11th

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5. Marukawa E, Oshina H, Tokumoto S, Tachasuttirut K, Ogawa T, Mochizuki N, Shinomiya K, Omura K Bone regeneration by a new hybrid implant of porous hydroxyapatite/collagen(HAp/col) composite and bone marrow aspirate. European Association for Cranio-Maxillofacial Surgery- XVIII Congress -, Barcelona, Spain, September 12th-15th, 2006.

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