



	Sign in
The Bulletin of TOKYO DENTAL COLLEGE	Published by Tokyo Dental College, Japan
Available Issues Japanese	>> <u>Publisher Site</u>
Author: ADVANCED Keyword: Search	Volume Page Go
Add to Favorite/Citation Articles Alerts	Add to Register My J-STAGE Publications Alerts Philippe
<u>TOP</u> > <u>Available Issues</u> > <u>Table of Contents</u> > A	Abstract

The Bulletin of Tokyo Dental College

Vol. 50 (2009), No. 3:125-133

[PDF (176K)] [References]

PRINT ISSN: 0040-8891

Activation of PI3K-AKT Pathway in Oral Epithelial Dysplasia and Early Cancer of Tongue

Shinya Watanabe¹⁾, Kazumichi Sato²⁾, Yuichiro Okazaki²⁾, Morio Tonogi¹⁾, Yoichi Tanaka³⁾ and Gen-yuki Yamane¹⁾²⁾

- 1) Department of Oral Medicine, Oral and Maxillofacial Surgery, Tokyo Dental College
- 2) Tokyo Dental College Oral Cancer Center
- 3) Clinical Laboratory, Division of Surgical Pathology, Ichikawa General Hospital, Tokyo Dental College

(Received January 21, 2009) (Accepted June 12, 2009)

Abstract: Increasingly, cancers are being diagnosed at an early stage. Leukoplakia, a precancerous lesion, progresses to cancer in 5-10% of cases. We performed genetic analysis using cDNA microarray and immunohistochemistry in 6 patients, 3 with precancerous lesions and 3 with early tongue cancer, to evaluate the usefulness of these methods in the diagnosis of precancerous lesions and early cancer. Samples of normal epithelium, epithelial dysplasia, and cancer tissues were collected by laser microdissection, RNA was extracted, and the signals converted to numerical values. Immunohistochemical analysis was performed using antibody against phospho AKT (p-AKT), a component of the phosphoinositide 3-kinase (PI3K) signal pathway. Five genes showed a 2 times or greater level of increase in expression in epithelial tissue in comparison with in normal tissue, while 4 genes showed a 2 times or greater increase in early cancer tissues. In cancer tissues and epithelial dysplasia tissues, PI3K class III was expressed at 2.5 times and 11 times the level of that found in normal tissue, respectively. Histochemistry using p-AKT antibody revealed no positive cells in normal tissue. Positive cells were noted in the basal and parabasal cell layers, and partially in the spinous layer of epithelial dysplasia tissues, and in the spinous layer of early cancer tissues. These findings suggest that activation of the PI3K-AKT signal pathway is associated with oral carcinogenesis.

Key words: PI3K-AKT, cDNA microarray, Epithelial dysplasia, Early cancer, Tongue

[PDF (176K)] [References]

Download Meta of Article[Help]

RIS

BibTeX

To cite this article:

Shinya Watanabe, Kazumichi Sato, Yuichiro Okazaki, Morio Tonogi, Yoichi Tanaka and Gen-yuki Yamane: "Activation of PI3K-AKT Pathway in Oral Epithelial Dysplasia and Early Cancer of Tongue". The Bulletin of Tokyo Dental College, Vol. 50: 125-133 (2009).

doi:10.2209/tdcpublication.50.125

JOI JST.JSTAGE/tdcpublication/50.125

Copyright (c) 2009 by Tokyo Dental College, Japan











Japan Science and Technology Information Aggregator, Electronic **JSTAGE**

