

Squamous odontogenic tumor of the mandible: A case report demonstrating immunoexpression of Notch1, 3, 4, Jagged1 and Delta1

Type:

Article

Abstract:

Background: Squamous odontogenic tumor (SOT) is a rare benign odontogenic epithelial neoplasm. A slow-growing painless expansive swelling is the common presenting symptom. Histopathologically, SOT can be easily misdiagnosed as an acanthomatous ameloblastoma. Although Notch receptors and ligands have been shown to play a role in cell fate decisions in ameloblastomas, the role of these cell signaling molecules in SOT is unknown. **Case report:** This paper describes a case of SOT affecting the anterior mandible of a 10-year-old Indian female. The patient was treated by local surgical excision and there has been no follow-up clinical record of recurrence 5 years after primary treatment. Histopathological examination revealed a solid, locally-infiltrative neoplasm composed of bland-looking squamatoid islands scattered in a mature fibrous connective tissue stroma and the diagnosis was SOT. Immunohistochemical evaluation showed positive reactivity of varying intensity in the neoplastic epithelial cells for Notch, Notch3, Notch4, and their ligands Jagged1 and Delta1. Expression patterns showed considerable overlap. No immunoreactivity was detected for Notch2 and Jagged2. **Conclusions:** Present findings suggest that Notch receptors and their ligands play differential roles in the cytodifferentiation of SOT.

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Source	European Journal of Medical Research
ISSN	0949-2321
DOI	-
Volume (Issue)	15(4)
Page	180-184
Year	2010

Keyword:

solitary odontogenic tumor, Notch signaling, immunohistochemistry, cytodifferentiation ameloblastomas, neoplasms

Please Cite As:

SIAR, C. H., NAKANO, K., NG, K. H., TOMIDA, M., NAGATSUKA, H. & KAWAKAMI, T.
2010. **Squamous odontogenic tumor of the mandible: A case report
demonstrating immunoexpression of Notch1, 3, 4, Jagged1 and Delta1**
European Journal of Medical Research, 15, 180-184.

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