

Localization of oxytalan fiber, type III collagen and BMP family in conventional and desmoplastic ameloblastoma

Type:

Article

Abstract:

The histologic hallmark distinguishing desmoplastic ameloblastoma (DA) from conventional ameloblastoma (CA) is its pronounced stromal desmoplasia, and this formed the basis of this investigation. To elucidate the stromal characteristics, localization patterns of oxytalan fibers, type III collagen and BMP family in DA (n=8) was compared with CA (n=24), and periodontal ligament (PL) (n=8). Oxytalan fibers formed apico-occlusal bundles in PL, thick radial bundles around tumor nests in DA, and as scanty fibers in CA. Type III collagen was identified in PL, strongly expressed in DA stroma, but weakly in CA. BMP-2, -3, -4 and -7 expression patterns in tumor epithelium and stroma were more pronounced in DA (including sites of bone formation), than CA. No immunoreactivity for BMP-5 and -6 were detected. Current findings suggest that the stroma in DA is neoplastic and derived from odontogenic ectomesenchyme, and recommends its reclassification as an odontogenic epithelial-ectomesenchymal neoplasm.

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Source	Journal of Hard Tissue Biology
ISSN	1341-7649
DOI	10.2485/jhtb.17.23
Volume (Issue)	17(1)
Page	23-30
Year	2008

Keyword:

odontogenic neoplasm,ameloblastoma,matrix proteins,BMP family,bone morphogenetic protein-2,odontogenic-tumors,osteogenic protein-1,tooth morphogenesis,developing teeth,matrix proteins,alpha-6 chains,differentiation,expression,benign

Please Cite As:

INOUE, M., NAGATSUKA, H., TAMAMURA, R., SIAR, C. H., TSUJIGIWA, H., BORKOSKY, S., FUJII, M., NAGAI, N. & SETSU, K. 2008. **Localization of oxytalan fiber, type III collagen and BMP family in conventional and desmoplastic ameloblastoma.** *Journal of Hard Tissue Biology*, 17, 23-30.

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