"IMMUNOHISTOCHEMICAL EXPRESSION OF CALRETININ IN SELECTED ODONTOGENIC TUMOURS – A COMPARATIVE STUDY"

by

Dr. ANILA K

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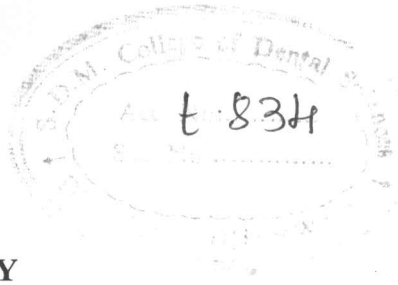

Under the guidance of
Dr. KAVERI HALLIKERI

DEPARTMENT OF ORAL PATHOLOGY
S.D.M. COLLEGE OF DENTAL SCIENCES & HOSPITAL,
DHARWAD

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ABSTRACT

Background & Objective: Calretinin is a calcium-binding protein that belongs to large family of EF-hand proteins. Expressed primarily in central and peripheral nervous system with a possible role as a calcium buffer, calcium-sensor, or regulator of apoptosis. Extensively studied in colon adenocarcinoma and mesotheliomas. It is known to be expressed in normal odontogenic epithelium and odontogenic tumours. However the role of calretinin in the pathogenesis of odontogenic tumours is yet to be confirmed. The aim was to evaluate the expression of calretinin in selected odontogenic tumours & further compare their expression in these tumours.

Methods: Immunohistochemical expression of calretinin was evaluated in a total of 50 cases, which included histopathologically diagnosed 20 ameloblastomas, 10 adenomatoid odontogenic tumours and 20 keratocystic odontogenic tumours. The staining intensity, pattern and localization of immunopositive cells were determined. Calretinin expression and staining intensity of tumor cells was considered for statistical evaluation.

Results: 18 (90%) cases of ameloblastoma and 16 (80%) cases of keratocystic odontogenic tumour were immunopositive for calretinin, whereas none of adenomatoid odontogenic tumours showed reactivity. Increased intensity of calretinin was seen in ameloblastoma compared to keratocystic odontogenic tumour. Statistically significant difference was seen when the expression and intensity of calretinin was compared in all the tumours except when expression was compared between ameloblastoma and keratocystic odontogenic tumour, there was no statistical significance.

Conclusion: In ameloblastoma calretinin expression is restricted to the stellate reticulum like cells, prominent in areas showing squamous metaplasia and those lining macro and microcysts. Indicative of calretinin as an apoptotic marker in ameloblastoma. Localization of calretinin expression in keratocystic odontogenic tumour reveals it to be a cell cycle regulator. Thus the exact role of calretinin in ameloblastoma and keratocystic odontogenic tumour has to be established by combining with other apoptotic and proliferative markers.

Keywords: (Calretinin; immunohistochemistry; ameloblastoma; adenomatoid odontogenic tumour; keratocystic odontogenic tumour; apoptotic marker and cell cycle regulator)