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Ki-67 Expression in Adenomatoid Odontogenic Tumor (AOT), Dentigerous Cyst (DC), Odontogenic Keratocyst (OKC), Ameloblastoma (AM) and Unicystic Ameloblastoma (UAB) – An Immunohistochemical Study.

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ABSTRACT:

Objectives: Odontogenic cyst and tumors are a diverse group of lesions exhibiting different biological behaviour. The rate at which a neoplasm proliferates is related to its clinical course. The present study was designed to evaluate and compare the proliferative index of Odontogenic tumors like adenomatoid odontogenic tumor (AOT), ameloblastoma (AM) and unicystic ameloblastoma (UAB) with odontogenic cysts like dentigerous cyst (DC) and non-syndromic odontogenic keratocyst (OKC), using immunohistochemical analysis with Ki-67.

Materials and Methods: 10 diagnosed cases each of AOT, DC, OKC, AM and UAB (type I & II) were subjected to immunohistochemical staining using Ki-67 monoclonal antibody. Cells that exhibit a clear brown nuclear staining was considered as positive.

Statistical Analysis Used: Pearson correlation and unpaired t test.

Results: The mean values of Ki-67 positivity were 6.81 for AOT, 6.69 for dentigerous cyst, 6.41 for UAB, 10.47 for OKC and 16.87 for AM. Statistically significant difference was noted between AM & other groups, except OKC. No statistically significant difference was found between AOT, DC, UAB and OKC.

Conclusion: The cellular proliferation rate does not correlate with aggressiveness of the lesion, and hence should not be considered as an important parameter in classification of odontogenic cyst or neoplasm. AOT has labelling index similar to DC, OKC and UAB. Hence, the classification of AOT as a cyst or neoplasm based on proliferation index using Ki-67 remains questionable.

Keywords: Ki-67, adenomatoid odontogenic tumor, dentigerous cyst, odontogenic keratocyst, ameloblastoma, unicystic ameloblastoma, adenomatoid odontogenic cyst

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