

POSTER PRESENTATION

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Comparative immunohistochemical analysis of Beclin-1 & MDM-2 in benign & malignant ameloblastomas

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Background

Ameloblastoma is the most frequently encountered neoplasm arising from the odontogenic epithelium. Beclin-1 protein plays a critical role in autophagy as a tumor suppressor gene. Whereas, the Murine Double Minute 2 (MDM-2) is a cellular proto-oncogene capable, if amplified, of causing tumor-genesis. The expression & prognostic significance of both genes are largely unexplored, yet, in this neoplasia. Therefore, the present investigation aimed to assess their possible biological role in ameloblastomas.

Methods

This study was done among 35 studied cases: 29 cases of benign ameloblastomas, and 6 cases of ameloblastic carcinomas. Labeled Streptavidin Biotin (LSAB + Dako) immunohistochemical method, utilizing monoclonal antibodies for Beclin-1 & MDM-2 genes, was used.

Results

Most of the benign ameloblastomas, 25 out of 29 cases (86%), showed intense total cell positivity for the Beclin-1, while, the ameloblastic carcinomas revealed mild (3 out of 6 cases, 50%) to negative expression (3 cases: 50%). Inversely, the MDM-2 oncoprotein demonstrated intense brown total cell reactivity in ameloblastic carcinoma (5 out of 6 cases, 83% positivity) & loss of the reaction (21 cases: 72%) to mild brown stain (8 cases: 28%) in benign ameloblastoma. These findings were statistically significant.

Conclusion

Based from these findings, one could conclude that, MDM-2 could be a specific marker to identify the

proliferative activity, tumor aggressiveness & directly proportional with the degree of malignancy. In contrast, the high Beclin-1 expression could be a good indicator of prognosis in ameloblastomas. Hence, an overall comparison, both studied genes may be very promising molecular prognostic biomarkers.

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