

Immunohistochemical Assessment of Ki-67 Expression in Adenoid Cystic Carcinoma of the Salivary Glands

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Abstract

Objective

Adenoid cystic carcinoma (ACC) is a rare malignant tumor originating from the salivary glands, the rather bland histological appearance of which masks its ultimate biological aggressiveness. Evaluation of cell cycle and mitoses has been useful in predicting malignancy in many tumors. Ki-67 antigen is a human nuclear antigen that appears in all active phases of cell cycle. The study has been planned to find out (any kind of) relationships between Ki-67 expression ratio and the morphological growth pattern and the histological grade of the tumor.

Materials and Methods

Tissue samples of 19 ACC, were selected from the files in the archive of the Oral Pathology Department, of Mashhad University. All samples were picked up minor salivary glands including 11 men and 8 women with an average age of 46. One section was stained with H&E to confirm the diagnosis and the other with Ki - 67 monoclonal antibody. All samples were graded and scored for Ki-67 immunoreactivity, then the ratio of Ki-67 positive cells was calculated.

Results

The incidence of tumor was higher in 4th and 5th decades of age, particularly in women. The most common site of tumors was palate. Ki-67 expressed in 68% of all samples. The Ki-67 immunoreactivity ranged from 15% to 85%. Although the average percentage of Ki-67 expression seemed to increase with histological grade, the difference between grade III and grade I, and between grade III and mixed I / II was not statistically significant (p value = 0.3).

Conclusion

For ACC, Ki-67 immunostaining, regarding to histological grading, was not a reliable tool in predicting the intensity of tumor aggressiveness and seemed to have less value. Further studies with greater series of samples are needed to confirm this issue.

Keywords: Adenoid cystic carcinoma, Immunohistochemistry, Ki-67, MIB-1, Salivary gland.

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