The Modified AgNOR Staining in Diagnosis of Benign and Malignant Salivary Gland Tumors

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Abstract

Statement of problem: Salivary gland neoplasms show varied histological and biological characteristics, and there may be difficulty in differentiating between low grade malignancies and benign tumors of the salivary glands.

Purpose: The aim of this study was to investigate the diagnostic value of modified AgNOR technique in distinguishing between benign and malignant salivary gland tumors.

Materials and Method: In this cross-sectional study, 40 benign salivary gland tumors (34 pleomorphic adenoma, 6 warthin tumor), 40 malignant neoplasms (26 adenoid cystic carcinoma, 14 mucoepidermoid carcinoma) and 10 chronic sialadenitis were stained with modified AgNOR technique. AgNOR counts, variation in size and dispersion of AgNOR dots in the cells were graded and compared in benign and malignant tumors. The data were statistically analyzed by ANOVA, Tukey, t-test and Kruskal-Wallis tests.

Results: The mean AgNOR counts for the benign neoplasms (1.29±0.13) were less than those for the malignant neoplasms (2.87±0.25). Variation in AgNOR size and dispersion was of a higher grade in malignancy when compared with benign neoplasms (p <0.05).

Conclusion: Our results suggest that modified AgNOR staining is useful for distinguishing benign from malignant tumors, but variation in AgNOR size and dispersion in addition to the count should also be considered.

Key words: Modified AgNOR, Pleomorphic adenoma, Warthin tumor, Adenoid cystic carcinoma, Mucoepidermoid carcinoma