



SALIVARY GLAND CARCINOMA: MORPHOLOGICAL, CLINICAL AND IMMUNOHISTOCHEMICAL FEATURES

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ABSTRACT

Salivary gland carcinomas represent a relatively rare group of head and neck malignancies; however, they are characterized by marked clinical heterogeneity, diverse morphological structures, and variable biological behavior. The low specificity of early clinical manifestations, along with the wide range of histological subtypes and differences in aggressiveness, requires an individualized diagnostic and therapeutic approach. In particular, immunohistochemical markers such as Ki-67 and p53 play a crucial role in assessing tumor proliferative activity, invasiveness, and prognosis.

Relevance: Salivary gland carcinomas represent a relatively rare group of head and neck malignancies; however, they are characterized by marked clinical heterogeneity, diverse morphological structures, and variable biological behavior. The low specificity of early clinical manifestations, along with the wide range of histological subtypes and differences in aggressiveness, requires an individualized diagnostic and therapeutic approach. In particular, immunohistochemical markers such as Ki-67 and p53 play a crucial role in assessing tumor proliferative activity, invasiveness, and prognosis.

Aim of the study: To analyze the clinical course, morphological types, and immunohistochemical features of salivary gland carcinoma and to evaluate the prognostic significance of the Ki-67 proliferative index.

Materials and Methods: The study included clinical and morphological data of 20 patients diagnosed with salivary gland carcinoma and treated at the Republican Specialized Scientific and Practical Medical Center of Oncology and Radiology between 2018 and 2022. Among them, 12 patients (60.0%) were male and 8 (40.0%) were female, aged between 32 and 74 years. The highest incidence was observed in the 50–60-year age group.

In all cases, tumor localization, clinical presentation, histological subtype, lymph node status, and treatment approaches were analyzed. Immunohistochemical assessment included evaluation of Ki-67 proliferative index and p53 expression.

Results: Histological examination revealed the following tumor types: mucoepidermoid carcinoma in 7 patients (35.0%), adenoid cystic carcinoma in 5 patients (25.0%), poorly differentiated adenocarcinoma in 4 patients (20.0%), acinic cell carcinoma in 2 patients (10.0%), and other histological types in 2 patients (10.0%).

Clinically, the most common manifestations included painless swelling in the parotid and submandibular regions, gradual tumor enlargement, facial nerve paresis, trismus, local pain, and discomfort. Regional lymph node metastasis was identified in 4 patients (20.0%) at advanced stages of the disease.

Immunohistochemical analysis demonstrated that the Ki-67 proliferative index varied depending on histological type and tumor grade. In low-grade tumors such as acinic cell carcinoma, Ki-67 ranged from 5–10%. In intermediate-grade tumors, such as mucoepidermoid carcinoma, the index ranged

from 15–30%. In high-grade tumors, including poorly differentiated adenocarcinoma and adenoid cystic carcinoma, Ki-67 values ranged from 35–70%.

A high Ki-67 index was associated with increased tumor invasiveness, local progression, and metastatic potential. Positive p53 expression was predominantly observed in high-grade and poorly differentiated tumors, indicating its additional prognostic significance in assessing tumor aggressiveness.

Treatment strategy was selected based on histological type, clinical stage, tumor extension, and the patient's general condition. Surgical treatment was performed as the primary modality in 14 patients. In 6 patients, surgery was followed by adjuvant radiotherapy or chemotherapy.

Conclusion: Salivary gland carcinoma is a heterogeneous group of malignancies requiring a comprehensive diagnostic and therapeutic approach. The study demonstrated that the Ki-67 proliferative index is an important immunohistochemical marker for assessing tumor grade, invasiveness, and metastatic potential. High p53 expression in aggressive tumors further supports its value as an additional prognostic indicator. Early detection and combined morphological and immunohistochemical evaluation of salivary gland carcinomas are essential for optimizing treatment strategies and improving clinical outcomes.

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