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*Approaching the new era of molecular medicine:
from target based agents to nucleic acids
in the treatment of tumours and neurodegenerative diseases*



ABSTRACT FORM

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Head and Neck squamocellular carcinomas: E-cadherin and Keratin 5 as biomolecular markers

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Abstract

E- Cadherin is a transmembranar protein that plays an important role in the cellular adhesion and insure the connection of the tissue cells; it is present in the epithelial cells and its aberrant expression is correlated with different kinds of head and neck squamocellular carcinoma. Keratin 5 (K5) is present in the basal layer of a stratified squamous keratinized and non-keratinized epithelium. The purpose of the present study was to identify the expression particularities of E-cadherin and Keratin 5 in rapport with the localization and the differentiation of various head and neck squamocellular carcinomas (larynx, pharynx, hard palate, tongue, submandibular, lip, gingival sulcus, nasal pyramid, maxillary, zygomatic). Immunoreactions for E-cadherin in the tumoral cells were examined according to the this score: 0 (0% positive cells), 1 (< 10% positive cells), 2 (10-30%), 3 (>30%). The presence of maximum score (value 3) of E-cadherin was found in well-differentiated squamocellular carcinomas of laryngeal, tongue, lip, nasal pyramid, zygomatic area origin. A lower value of the score was present in the less differentiated histopathological type. The role of E-cadherin in the squamocellular carcinomas is far from being clarified. It seems that the trials to estimate a prognosis in this clinical entity should include a combination between the molecular markers, the histopathological data and clinical parameters. K5 expression was observed in all squamocellular carcinomas included in the present study with scores between 1 and 3. For well- and moderately-differentiated histopathological types, a maximum score of 3 was recorded for all of the cases, not including the laryngeal area, which presented a score of 2. The following scores were identified in the regions of the poorly differentiated carcinomas: Jaw, 3; gingival sulcus, 2; and tongue and submandibular area, 1. The present study confirms the role of K5 in the definition of the differentiation of squamocellular carcinoma of head and neck revealing a differential expression depending on the anatomic site of the primary tumor. These observations may aid with an improved stratification of head and neck squamocellular carcinoma, thus improving the diagnosis and treatment strategies for this type of cancer.

Keywords: E- cadherin, Keratin 5, squamocellular carcinoma, head and neck cancer, tumoral differentiation.