

Analysis of immune-phenotype in squamous cells carcinoma of the tongue

Marco Mascitti¹, Giuseppe Troiano^{2*}, Rodolfo Mauceri³, Lorenzo Lo Muzio², Corrado Rubini¹, Andrea Santarelli¹

¹*Department of Clinical Specialistic and Dental Sciences, Polytechnical University of Marche, Ancona, Italy*

²*Department of Clinical and Experimental Medicine, University of Foggia, Foggia, Italy*

³*Department of Surgical, Oncological and Oral Sciences, University of Palermo, Palermo, Italy*

*giuseppe.troiano@unifg.it

AIM

The recent success in the treatment of head and neck squamous cell carcinoma with checkpoint inhibitors has stimulated researchers in the understanding of the role that the immune system plays in cancer. The immune system interacts intimately with tumors over the entire process of disease development and progression to metastasis. Recently, Chen and Mellman classified cancer in relation to the immune system, distinguishing three phenotypes: Inflamed, Immune-escaped and Immune-desert¹. In this paper, we analyzed tongue squamous cell carcinoma (TSCC) samples, according to the aforementioned classification, in order to study the role of the immune system in this subtype of tumors.

MATERIALS AND METHODS

In this study, 82 patients surgically treated for SCCTs at the Department of Maxillofacial Surgery, "Ospedali Riuniti" General Hospital (Ancona, Italy), between 2011 and 2016 were included. Clinical and radiologic data were obtained from each patient's medical record, and pathologic data were retrieved from the archives of the Sections of Pathology, Marche Polytechnic University, Italy. Tumors were classified on the basis of the immune infiltrated in: Inflamed, Immune-escaped and Immune-desert; and correlated with clinic pathological parameters.

RESULTS

Pathological analysis of immune-phenotype of TSCC samples revealed that: 59.8% (49/82) were classified as Inflamed, 30.5% (25/82) as Immune-Excluded and 9.8% (8/82) as Immune-desert. In addition, the ratio carcinoma stroma in TSCC inversely correlated with the size of the tumor at the time of diagnosis.

DISCUSSION

The analysis of the immune-phenotype could be used to further stratify patients with TSCC². A possible inclusion of this parameter in the clinical staging needs to be evaluated in further well-standardized studies³.

Keywords: immune system, immunity, tongue, head and neck, OSCC (Oral Squamous Cell Carcinoma)

REFERENCES

1. Chen DS, Mellman I. Elements of cancer immunity and the cancer-immune set point. *Nature*. 2017 Jan 18;541(7637):321–330.
2. Cogdill AP, Andrews MC, Wargo JA. Hallmarks of response to immune checkpoint blockade. *Br J Cancer*. 2017 Jun 27;117(1):1–7.
3. Chen DS, Mellman I. Oncology meets immunology: the cancer-immunity cycle. *Immunity*. 2013 Jul 25;39(1):1–10.