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Tissue Eosinophilia in Head and Neck Squamous Cell Carcinoma

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Abstract

Background and Aim: Tumor associated tissue eosinophilia (TATE) is observed in several types of neoplasms, however, its relation with cancers such as Squamous Cell Carcinoma (SCC) which is the most common malignancy of head and neck has not been identified; This study aims to evaluate the relationship between TATE and histologic grading of head and neck SCC (HNSCC) by Luna's histochemical staining.

Materials and Methods: In this descriptive study, 67 slides of 4µ HNSCC tissue sections were stained with hematoxylin and eosin. Samples were reviewed to evaluate histologic grading and then were divided into three groups as follows: Well-Differentiated, Moderately-Differentiated and Poorly-Differentiated. Eosinophil infiltration in tumor was assessed with Luna's histochemical staining technique and eosinophils were counted and classified as follows: none (0), low (1-4), moderate (5-19), high (≥20). They were randomly evaluated per 10 microscopic fields. Kruskal-Wallis test and Spearman correlation coefficient were used to analyze the results.

Result: Tissue eosinophilia was found to be zero in only one case (1.5%) whereas in other 66 patients (98.5%) it was reported to be positive. The mean±SD number of counted eosinophil cells was 5.41±4.74. There was a significant correlation between the degree of histopathologic grade and TATE (P=0.04), but no significant relationship was detected between TATE and age, sex and lesion location.

Conclusion: Tissue eosinophilia in Poorly-Differentiated group of HNSCC patients was lower than the other two groups, but no relationship associated with other clinicopathologic factors was found.

Keywords: *Eosinophils; Squamous Cell Carcinoma; Head and neck; Luna staining*

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