Increased of Langerhans Cells in Smokeless Tobacco-Associated Oral Mucosal Lesions

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Abstract

Objective: To evaluate the changes in the number of Langerhans Cells (LC) observed in the epithelium of smokeless tobacco (SL T -induced) lesions.

Methods: Microscopic sections from biopsies carried out in the buccal mucosa of twenty patients, who were chronic users of smokeless tobacco (SL T), were utilized. For the control group, twenty non-SL T users of SL T with normal mucosa were selected. The sections were studied with routine coloring and were immunostained for S-100, CD1a, Ki-67 and p63. These data were statistically analyzed by the Student's t-test to investigate the differences in the expression of immune markers in normal mucosa and in SL T -induced leukoplakia lesions.

Results: There was a significant difference in the immunolabeling of all markers between normal mucosa and SL T -induced lesions (p<0.001). The leukoplakia lesions in chronic SL T users demonstrated a significant increase in the number of Langerhans cells and in the absence of epithelial dysplasia.

Conclusion: The increase in the number of these cells represents the initial stage of leukoplakia.

Key words: Smokeless tobacco, leukoplakic lesions, cancer, langerhans cells, chewing tobacco.