

A COMPARATIVE CYTOMORPHOMETRIC STUDY OF BUCCAL MUCOSAL SMEARS OF CIGARETTE SMOKERS AND NASWAR (NICOTIANA TABACUM) USERS.

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Objective: To determine and compare cytomorphometric changes in buccal mucosal cells of cigarette smokers, naswar users and non-users/smokers.

Materials and Methods: Cellular diameter CD, nuclear diameter ND and nuclear to cytoplasmic ratio N/C ratio were assessed in buccal smears taken with wooden spatula from clinically normal mucosa of smokers, naswar users and control group. The sample size was 99 subjects of ages 15 years-60years, divided into three groups (33 each group) as M, S and N i.e. control, smokers and naswar users respectively. Slides were stained with three stains Hematoxylin and Eosin Stain, Giemsa Stain and Papanicolaou Stain. **Results:** The cytomorphometric variables were measured by using stage and ocular micrometers. The mean cellular diameter of group M, S and N was 43.8mm, 54.3mm and 42.7mm respectively. The mean nuclear diameter of M, S and N was 9.97mm, 12.6mm and 11.8mm respectively. And the mean N/C ratio of group M, S and N was 1:4.4, 1:4.3 and 1:3.5 respectively. The mean differences between CD, ND and N/C ratio in all three stains, among the three groups, S, N and M was found to be statistically highly significant i.e. $p \leq 0.001$ on ONE WAY ANOVA. While, on Post hoc tukey test between S and N, CD and N/C ratio were highly significant $p \leq 0.000$ while ND was not significant. While between S and M, CD and ND both were significant and showed $p \leq 0.000$ while N/C ratio was not significant. In comparison between N and M, ND and N/C ratio were found to be significant while CD was not significant. **Conclusion:** The cytomorphometric changes assessed by this study depict only cause effect relationship with smoking and naswar use. Association of these changes with dysplasia or premalignancy needs further verification with the help of specific immune-markers.