A-10: Morphometry in relation to tobacco habits with special reference to oral pre-malignancy and malignancy

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Tobacco use could be divided into the smoking habit and the smokeless tobacco habit. The latter, in Sri Lanka is common in the form of betel chewing with the use of cured tobacco leaf. The present study analyses the specific effects of the tobacco habits on oral pre-malignancy and malignancy by measurement of the cytological changes and their correlation with the aetiological agents. A sample of smokers (n = 59) and betel chewers (n = 48) were compared with controls in the same age range, who had no tobacco habits. Of these samples, morphometric analysis was done on subjects with the habit of tobacco smoking and chewing or smoking only (n = 28), subjects with the habit of tobacco chewing only (n = 27) and control subjects (n = 26). Buccal smears were collected from these samples and stained with the Papanicolaou stain. In the smears, the mean nuclear diameter and cell diameter were obtained for each case by using an eyepiece graticule. Overall analysis of variance (one way ANOVA) for nuclear diameter and cell diameter (see Table) showed a significant difference ($P < 0.001$) between the groups where tobacco was used and the control group. There was no

significant variation in nuclear diameter and cell diameter between the tobacco smokers and tobacco chewers.

Group	Mean diameter in μ_m(± S.E in μ_m)	
	Nucleus	*Cell*
Smoking only + Smoking with chewing	9.02(± 0.11)	42.88 (± 0.61)
Chewing only	9.18(± 0.11)	41.77 (± 0.62)
Control	8.52(± 0.11)	52.70 (± 0.63)

Comparison of the combined habit group of tobacco smokers and tobacco chewers with the smokers only (single habit group) by a t-test showed no significant difference in the nuclear diameter and cell diameter. The results show that in pre-malignant and malignant lesions, there is no significant difference in morphometry in the combined habit of tobacco chewing and smoking and the single habit of tobacco chewing or smoking. This means that the nuclear and cell size is similarly affected even if one habit is present.