roliferative activity of apparently healthy oral epithelium exposed to certain carcinogens. Methods: The nuclear area (NA) and nucleolar organizer regions (NORs) counts were compared with that of cytological atypia in 100 cases of epithelia exposed to toombak (carcinogen), 100 controls (nonexposed) and two cases of squamous cell carcinoma (SCC), as internal controls. Results: Significant differences in AgNOR (p<0.001) mean count and NA mean values (P<0.001) were identified between cases and controls. Significant differences were also noted in AgNOR mean count and NA mean values between cases and two cases of SCC. Conclusions: AgNOR mean count and NA are useful markers for prediction of cytologically nonevident proliferative activity of oral mucosa exposed to carcinogens.