

Chemiluminescence as a diagnostic aid in the detection of oral cancer and potentially malignant epithelial lesions

Type:

Article

Abstract:

Chemiluminescence was evaluated as a diagnostic aid in the detection of oral cancer and potentially malignant epithelial lesions (PMELs) by comparing it against 1% toloum chloride mouth rinse. Forty-six clinically identified lesions [14 primary squamous cell carcinoma (SCC), 26 PMELs and 6 benign lesions] and five cases of normal oral mucosa from 40 subjects (inclusive of 10 previously treated SCC cases) were examined with a commercial chemiluminescent kit (Vizilite (R)) and toloum chloride. Biopsy and histological verification of 31 lesions disclosed 14 SCC (45.2%), 10 epithelial dysplasias (32.3%), 5 lichen planus (16.1%) and 2 benign lesions (6.4%). For the remaining 15 lesions, a biopsy was not performed owing to patient's lack of consent or ill-health. The five cases of normal oral mucosa which tested negative for both tools were also not biopsied for ethical reasons. Sensitivity for Vizilite (R) and toloum chloride was 100% and 70.3%, respectively; and specificity was 14.2% for Vizilite (R) and 25% for toloum chloride. Their accuracy was 80.6% and 64.5%, respectively. Current findings suggest that chemiluminescence is a more reliable diagnostic tool than toloum chloride in the detection of oral cancer and PMELs, and for follow-up of patients treated for the same.

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