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1 | Intraoral confocal microscopy of suspicious oral lesions: a prospective case series.

Contaldo M, Lauritano D, Carinci F, Romano A, Di Stasio D, Lajolo C, Della Vella F, Serpico R, Lucchese A1. *Int J Dermatol. 2019 Jul 9. doi: 10.1111/ijd.14574.*

ABSTRACT

BACKGROUND: Oral squamous cell carcinoma (OSCC) accounts for more than 90% of oral epithelial malignancies and often arises from precursor lesions, whose diagnosis is based on biopsy and histopathology. In vivo reflectance confocal microscopy (RCM) images the vital tissues at microscopic resolution, well correlating with conventional histopathology, but it is poorly investigated in oral oncology. The present work aims to describe RCM cytoarchitectural findings in oral mucosae affected by OSCC and its precursors. MATERIALS AND METHODS: A series of clinically suspected oral lesions underwent RCM imaging before conventional biopsy and histopathological assessment in order to identify features suggestive of tumoral changes. Sensitivity (SE), specificity (SP), positive and negative predictive values (PPV and NPV) of RCM compared to histopathology were calculated. RESULTS: Totally, 30 sites in 20 patients were considered and clinically classified into 16 "leukoplakia"/" traumatism", nine erosive-ulcerative lesions, three verrucous lesions, and two healthy mucosae, as control. The histopathological "positivity," due to the presence of various degrees of dysplasia and/or neoplasia, was found in 11 lesions; the RCM "positivity" was referred to nine lesions reporting the RCM detection of polymorphism, multinucleated cells, irregular cellular maturation, altered nuclear/cytoplasm ratio, and abnormal blood vessels. After excluding three verrucous lesions from the RCM analysis, due to the low laser penetration through the hyperkeratotic layers, the results well correlated with histopathology, reporting 1.000 (SE), 0.933 (SP), 0.909 (PPV), and 1.000 (NPV). CONCLUSION: RCM can reveal dysplastic/neoplastic signs occurring in oral lesions, thus supporting their diagnostic pathway. PMID:31287162 DOI:10.1111/ijd.14574