

TITOLO : IN VIVO EVALUATION OF OPMDs WITH OPTICAL COHERENCE TOMOGRAPHY: A MULTICENTER PRELIMINARY DOUBLE BLIND STUDY.

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Introduction: Optical Coherence Tomography (OCT) in Oral Medicine can be an aid for the diagnosis and management of Oral Potentially Malignant Disorders (OPMDs) through the optical evaluation of the epithelial layers structural changes involved by the OPMDs.

General aim: This multicentric study proves how OCT images could be objectively and blindly interpreted by different trained operators, coming from three collaborating Italian Oral Medicine Centers.

Methodology: Based on the delimitation of the site where to perform a biopsy, OCT scans of pathological tissue were carried out, with related tissue measurements, by a Coordinator Center (Turin). The scans were then analyzed blindly by 2 operators of the Collaborating Centers (Palermo and Naples) who provided a description of the lesion and diagnostic hypothesis. Considering all data, a percentage of agreement between blinded operators on OCT scans with the diagnostic hypothesis was defined. A percentage of agreement with the histological diagnosis was also drawn up.

Results: A case-series of 10 scans were analyzed. The concordance between the three Centers about elementary lesions was 90%. Concordance about the suspicious diagnosis was 85%. The concordance between suspicious diagnosis in OCT with histological statement was 75%. The variability of thicknesses of the epithelial layers and non-determinability of the basement membrane appeared more confusing in mixed/atrophic-erosive lesions.

Conclusions: OCT is a very useful diagnostic method to identify homogeneous OPMDs with precise morphological patterns. It is necessary to identify more accurate patterns in non-homogeneous lesions to formulate an appropriate concordance index.