

## Incisional biopsy examination to diagnose oral potentially malignant disorders and oral squamous cell carcinoma: report of 100 cases

**Giorgia Capocasale, Martina Peretti, Francesca Zotti, Andrea Fior, Christian Alberti, Massimo Albanese**  
Department of Surgery, Dentistry, Paediatric and Gynecology, University of Verona, Verona, Italy

**Aim:** Oral squamous cell carcinoma (OSCC) is the most common oral and maxillofacial malignancy. If detected at an early stage, survival from oral cancer is higher than 90% at 5 years. OSCC is very often preceded by oral “potentially malignant disorders”; in 2005, the World Health Organization recommended the use of the term oral “potentially malignant disorders” (PMDs) instead of precancerous lesions, having greater potential for malignant transformation than other oral lesions. In these cases, often, patients presented widespread disorders in different sites of the oral cavity and for this they obviously require an incisional biopsy. Indeed, currently, the “gold standard” for the diagnosis of PMDs or OSCC involves three initial steps: a visual recognition of macroscopic features, selection of the most representative sites for biopsy, and histomorphology examination. So the limitations are: the choice of the site, the tendency of PMDs towards field cancerization, artifacts or insufficient tissue, intra- and interobserver variability. Also, patients should be followed-up at regular intervals. Currently, follow-up intervals are not evidence-based and are entirely based on clinicians’ subjective assessment of clinical appearance and reported dysplasia in the specimens. The aim of this retrospective study was to determine the accuracy of incisional biopsy examination to diagnose PMDs or OSCC, also during follow-up.

**Methods:** This retrospective review included a sample 100 patients referred to the Department of Surgery, of Dentistry, Paediatric and Gynecology, University of Verona, during the period from 2007 to 2017, who presented the following oral lesions: leukoplakia (idiopathic or due to smoking), erythroplakia, oral lichen planus, and who also were subjected to incisional biopsy. All data as demographics, habits (smoking and alcohol) and clinical features of the lesions (site, clinical features, morphology and color) were collected in a dataset. For each patient the clinical diagnosis formulated during the first visit was also recorded. The photographic records were collected in order to record not only the clinical features of the lesion, but also for the purpose of recording the site in which biopsy sampling was performed. Simple visual examination is accompanied with adjunctive techniques as toluidine blue for subjective interpretation of dysplastic changes.

**Results:** Considering the period from 2007 to 2017, 100 patients involved in the study were: 57 females and 43 males; their age range was 27-86 years. The majority of the lesions (n=31) appeared clinically as plaque, 23 were erosive lesions, 30 were papular/reticular, 8 were mixed plaque and erosive lesions, and 8 were ulcerative lesions. The pathological diagnosis identified the presence of 51 cases of Oral Lichen planus, 31 cases of oral leukoplakia, 10 cases of Proliferative verrucous leukoplakia and 8 cases of erythroleukoplakia. No cases were found with insufficient tissue provided in the biopsy specimen or sampling error. Also, during follow-up period, 21 patients were subjected to incisional biopsy (also with toluidine blue); so, 9 cases of OSCC were diagnosed: in 5 cases patients’ first diagnosis were oral lichen planus, in 4 cases were erythroleukoplakia.

**Conclusions:** The data collected indicated a diagnostic concordance with final pathologic results of incisional oral biopsy. The clinical knowledge (in association with the use of adjunctive techniques as toluidine blue), the quality of the samples sent to the pathologists and the communications between oral surgeon and pathologist are important for a correct and timely diagnosis of PMDs or OSCC.