

Malignant Transformation of Oral Lichen Planus

Marko Mladenovski¹, Marija Andonovska², Mihajlo Petrovski¹, Katerina Zlatanovska¹, Ana Petroska², Tanja Stefanovska³

Faculty of Medical Sciences, Goce Delcev University, Stip, North Macedonia¹ University Ss. Cyril and Methodius, Faculty of Dentistry, Skopje, North Macedonia²
PHI "Health Center – Skopje, Polyclinic Idadija" – Skopje, Republic of North Macedonia³

Oral lichen planus (OLP) is a chronic inflammatory disease of the oral mucosa that has the potential for malignant transformation into oral squamous cell carcinoma (OSCC). Although the rate of malignant transformation is relatively low (between 0.4% and 2%), it represents a significant risk, especially in patients with atrophic, erosive, or ulcerative forms of OLP.



AIM: The aim is to review the clinical and molecular mechanisms of malignant transformation in OLP and to identify the potential risk factors that may influence the development of oral carcinoma in patients with OLP.



Clinical Signs of Possible Malignant Transformation:

- Persistent, non-healing ulcers.
- Changes in lesion color (erythroplakia or mixed leukoplakia).
- Indented or raised lesion borders.
- Rapid changes in the size and shape of existing lesions.
- Onset of pain or a burning sensation.

Material and Methods: A review of literature and clinical studies focusing on the malignant transformation of OLP. The application of histopathological analysis, biopsies, and molecular tests to identify atypical cells and genetic aberrations in patients with chronic OLP were used in the diagnosis. The clinical characteristics and symptoms of the patients were analyzed to determine signs indicative of potential malignant transformation.



Risk Factors for Malignant Transformation:

- **Duration of the disease** – Chronic inflammation can lead to DNA damage.
- **Type of OLP** – Erosive and atrophic forms are more prone to transformation.
- **Presence of dysplasia** – Histopathological analysis may reveal precancerous changes.
- **HPV infection** – Some studies associate the infection with an increased risk.
- **Smoking and alcohol consumption** – These factors further increase the carcinogenic risk.
- **Immunosuppression** – Patients with a weakened immune system are at higher risk.

Results: Patients with malignant transformation of OLP most often have erosive lesions, which are accompanied by pain, bleeding, and lesions that do not respond to standard treatment. Research indicates that hepatitis C, smoking, alcohol, and immune disorders (autoimmune diseases) play an important role in the development of malignant transformation in OLP. Molecular analyses of genetic aberrations and molecules associated with carcinogenesis suggest genetic instability, which may lead to malignant transformation.

Conclusion: OLP has the potential to progress into a malignant process. Regular clinical evaluations and early biopsy are crucial for the timely detection of malignant transformation.