CLINICAL AND DIAGNOSTIC SIGNIFICANCE OF MOLECULAR MARKERS IN POTENTIALLY PREMALIGNANT ORAL LESIONS

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Objective. To identify the diagnostic significance of various immunohistochemical (IHC) markers in IHC analysis of oral premalignant lesions.

Materials and methods. Meta-analysis of 18 scientific research including 264 people diagnosed with oral premalignant lesions (PML), malignant lesions (ML) and normal mucosa (NM) was carried out. The obtained information was summarized with outlines presented below.

Results. Cell proliferation markers **p53, Ki-67, p21**, nuclear cell proliferation antigen (**PCNA**) and microsomal support protein 2 (**MCM2**) and **Bcl-2** protein, an antiapoptotic marker, showed tendency to increase gradually from mild to moderate to severe dysplasia and reached its maximum value in ML, indicating the loss of differentiation. No significant differences in **p16** (tumor suppressor) expression prevalence were found among ML, PML with and without dysplasia and normal mucosa. A reduction of Rb protein (**pRb)** expression could be observed in transition from hyperplasia to dysplasia in PML cases. **VEGF-A,** a parameter representing microvascular density, increases significantly from NM to dysplasia and subsequently to ML, although an exact correlation with the severity of dysplasia has not been established.

Conclusions. Further investigations are needed to validate these results expanding the number of cases/lesions and focusing on specific sites to define which immunohistochemical markers may identify patients with either preinvasive or invasive lesions at higher risk of transformation.

References

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