

Expression of p53, pRb, Ki-67 and bcl-2 in betel quid induced oral mucosal lesions

Type: Meeting Abstract.

Content:

Introduction: Alterations in p53, pRb, Ki-67 and bcl-2 have been implicated the development of oral cancer although their combined expression in betel quid induced oral mucosal lesions as not clear. The objective of this study is to investigate the expressions of p53, pRb, Ki-67 and bcl-2 in oral mucosa of betel quid chewing subjects. **Materials and Methods:** A total of 64 tissue sections were obtained from biopsy samples of 50 subjects clinically diagnosed with betel chewer's mucosa (BCM, n=32), BCM with leukoplakia (n=12) and leukoplakia (n=6). Oral squamous cell carcinoma (OSCC, n=10) and normal oral mucosa (n=4) section were used for comparison. Histopathological analysis was made followed by immunohistochemical detection of p53, pRb, Ki-67 and bcl-2, bcl-2 staining was done in 25 cases of betel chewer's mucosa with or without leukoplakia. **Results:** Histopathologic analysis revealed atypical hyperplastic changes in 46% and dysplasia in 4% of cases. 28% cases showed p53 expression in parabasal and superficial layers of epithelium. 14 cases expressed either abnormal pRb or loss of pRb in which 8% of cases had cellular atypia and basal cell hyperplasia. 25 cases (50%) expressed Ki-67 in superficial layers of epithelium indicating high proliferative activity. 36% (9/25) of cases analysed for bcl-2 showed positivity in basal layers of epithelium. Interestingly, 40% (10/16) cases which were bcl-2 negative had high Ki-67 expression. **Conclusion:** The findings of our study suggest that alterations of p53, pRb, Ki-67 and bcl-2 occur early in oral mucosal lesions of betel quid chewing patients. This may aid in early diagnosis of potentially malignant oral lesions and oral cancer developing in the betel quid chewing patients who have neither developed chemically recognizable precursor lesions nor exhibit classical dysplastic changes.

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