

P3.21. Immunohistochemical evaluation of proteins metallothionein, pAkt, NF-κB, Ctbp, vimentin and Neu as prognostic factors of oral squamous cell carcinoma

T.L. Botelho^{a,*}, F.C.A. Xavier^a, H.A.R. Pontes^a, E.F. Mendonca^b, D.S. Pinto Jr.^a

^a University of Sao Paulo, Brazil

^b University of Goias, Brazil

Oral squamous cell carcinoma (OSCC) is the most frequent malignant tumor of the oral cavity. In spite of improve therapeutic procedures, patients with OSCC in advanced stage generally present a poor prognosis, with an overall 5-year survival rate that ranges from 20% to 40%. An extensive effort has started to identify features of the oral tumors that predict treatment response and prognosis. Therefore, we have examined the expression immunohistochemical of proteins metallothionein, pAkt, NF-κB, Ctbp, vimentin and Neu in 51 samples of oral squamous cell carcinoma to investigate their prognostic influence on oral cancer, as well as studying the correlations between clinical factors and patient survival. The results showed a significant association between pAkt and NF-κB and between metallothionein and NF-κB expression in tumor tissue. Besides pAkt and vimentin over-expression was found in OSCC clinical samples and its expression was significantly associated with a poor overall patient survival. In conclusion, our findings suggested that pAkt expression and vimentin may have therapeutic implications in oral squamous cell carcinoma.

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P3.22. Evaluation of the expression of cytokeratins in exfoliative cytology of oral mucosa from smoking patients

C. Lima, S. Leite, Y. Carvalho, L. Cabral, J. Almeida*

Sao Paulo State University, Brazil

The present study compared the expression of cytokeratins CK6, CK16 and CK19 and pan-cytokeratin (PAN) in oral mucosa cells between smokers and non-smokers to determine the proliferative activity and expression indicative of a potential for malignant transformation. Smears were obtained from the left lateral border of the tongue with a cytobrush from 25 smokers and 20 non-smokers seen at the clinics of FOSJC-UNESP, and processed for immunohistochemistry. Conventional microscopy was used for qualitative analysis. Proportions were compared statistically by the z-test and Fisher's exact test. The expression of CK6 (p=0.002), CK16 (p=0.003), CK19 (p=0.0001) and PAN (p=0.008) was higher in oral mucosa smears from smokers compared to non-smokers. In conclusion, the expression of CK6 and CK16 demonstrated increased epithelial proliferation in the oral mucosa of smokers, and expression of CK19 indicated alterations in epithelial maturation. The expression of PAN keratin indicates the need for the investigation of other types of CK in further studies.

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P3.23. Association of oral cancer susceptibility and DNA double strand break gene *Ku70* single nucleotide polymorphisms

C.W. Tsai^{a,b,#}, H.C. Tseng^a, C.H. Wang^a, H.C. Wang^a, C.H. Chang^a, R.F. Wang^a, C.L. Chang^a, C.C. Lin^{a,c}, C.S. Liu^a, C.F. Chiu^{a,c,*}, M.H. Tsai^{a,*}, D.T. Bau^{a,b,*}

^a Terry Fox Cancer Research Laboratory, Department of Medical Research, China Medical University Hospital, Taiwan

^b Graduate Institute of Chinese Medical Science, China Medical University, Taichung, Taiwan

^c Department of Family Medicine, China Medical University Hospital, Taichung, Taiwan

The DNA repair gene *Ku70*, an important caretaker of the overall genome stability, is thought to play a major role in the DNA double strand break repair system. It is known that defects in double strand break repair capacity can lead to irreversible genomic instability. However, the polymorphic variants of *Ku70* and their association with oral cancer susceptibility have never been reported on. In this hospital-based case-control study, the association of *Ku70* promoter T-991C (rs5751129), promoter G-57C (rs2267437), promoter A-31G (rs132770), and intron3 (rs132774) polymorphisms with oral cancer risk in a Taiwanese population was investigated. In total, 318 patients with oral cancer and 318 age- and gender-matched healthy controls recruited from the China Medical Hospital in Taiwan were genotyped. The results showed that there were significant differences between the oral cancer and control groups in the distribution of their genotypes (P = 0.0031) and allelic frequency (P = 0.0009) in the *Ku70* promoter T-991C polymorphism. Individuals who carried at least one C allele (T/C or C/C) had a 2.15-fold increased risk of developing oral cancer compared to those who carried the T/T wild-type genotype (95% CI: 1.37–3.36). In the other three polymorphisms, there was no difference between both groups in the distribution of either genotype or allelic frequency. In conclusion, the *Ku70* promoter T-991C, but not the *Ku70* promoter C-57G, promoter A-31G or intron3, is connected to oral cancer susceptibility. This polymorphism may be a novel useful marker for primary prevention and anticancer intervention.

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P3.24. Matrix metalloprotease and active type gelatinase of oral squamous cell carcinoma

S. Kawashiri^{*}, N. Noguchi, H. Kitahara, A. Okamune, K. Koroku, K. Yoshizawa

Dept. of Oral Surgery, Kanazawa University, Japan

Destruction of surrounding tissue is necessary for the invasion of cancer cells, and it has been revealed that various matrix degradation enzymes are produced in the tissue. Matrix metalloprotease (MMP) is one of the most important enzymes, showing correlations with the metastasis and prognosis. The detection of MMP is performed by immunohistochemical staining in clinical cases; however, it was impossible to differentiate the active type from the inactive type. In this study, we performed in situ zymography using gelatin films to observe matrix degradation the activity in oral squamous cell carcinoma. The specimens were 23 fresh biopsied tissues of oral squamous carcinoma that had been frozen and preserved below -80°C. We performed immunohistochemical staining of MMP-2, MMP-9, and MT-1MMP. We also performed in situ zymography using gelatin-coated films, in which we cut 5-μm thick sections of the preserved frozen cancer tissue, and placed the sections on films that were coated with thin gelatin membrane, then reacted the films in an incubator at 37°C and 100% humidity for 18h. After incubation, we stained the gelatin with 1.0% amido black for 1 h, and observed the traces of thin gelatin membrane digested by the gelatinase in the tissue. As a result of immunological staining, overexpression of MMP-2 and MMP-9 was more frequently observed in the front area of invasion in cancers with a higher level of invasion, and