ORAL CANCER: INDIAN PUBLIC HEALTH SCENARIO & TISSUE/SERUM MARKERS

Sunali Khanna¹, F. R. Karjodkar¹, C. Jane², A. V. Nerurkar², N. V Shirsat³, R. B. Deshpande⁴ and A. D. Amrapurkar⁵

¹Dept of Oral Medicine & Radiology, Nair Hospital Dental College; ²Dept of Biochemistry, TN Medical College BYL Nair Hosp.; ³Dept Neuro Oncology ACTREC(Tata Memorial Centre); ⁴Dept of Histopathology, PD Hinduja Hosp & Res. Centre; ⁵Dept of Pathology, TN Medical College BYL Nair Hosp. Mumbai, India

Abstract: Oral cancer is an insidious devastating malignancy and is one of the five leading sites of cancer in India. Among oral cancers, 90% of them are squamous cell carcinomas which arise from the mucosal lining. Several epidemiological and laboratory studies clearly suggest that tobacco in different forms is the single greatest risk factor for all oral malignancies in India. Research has shown that 70-90% of all cancers are precipitated due to environmental life style related factors, which are the most important and preventable among the environmental exposure. In India and South East Asia the precancerous lesions such as leukoplakia and oral submucous fibrosis are a matter of great public health concern. Tissue immunological, biochemical diagnostic and prognostic markers pave the way for early detection. In the present study expression of apoptosis regulating genes viz. survivin, Bcl-2, Bax and p53 in 55 patients of pre-cancer and cancer of buccal mucosa of Indian tobacco chewers was analyzed using immunohistochemical staining methods. Increased expression of anti apoptotic surviving in high grade tumors suggest survivin is likely to contribute significantly to apoptosis resistance in response to therapy. Increased levels of Circulating Immune Complexes (CIC) in high grade tumor suggest their contribution in evaluating the degree of malignant change. The trace elements in serum (Copper, Iron and Selenium) in 90 patients with oral pre-cancer and cancer were also analyzed. Studies pertaining to diagnostic and prognostic tissue/serum markers help to evaluate the molecular and biochemical basis of oral carcinomas.

Key words: Oral cancer, apoptosis, immune complexes, Bcl₂, Bax, p53, dental public health

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