Salivary Cytokines as Biomarkers for Oral Cancer

Abstract:

Fast, economic, and noninvasive, molecular analysis of saliva has the potential to become a diagnostic tool of reference for several local and systemic diseases, oral cancer included. The diagnosis of Oral Squamous Cell Carcinoma (OSCC) can be performed using high specificity and sensibility biomarkers that can be encountered in the biological fluids. Recent advances in salivary proteomics have underlined the potential use of salivary biomarkers as early diagnosis screening tools for oral neoplasia. In this respect, over 100 salivary molecules have been described and proposed as oral cancer biomarkers, out of which cytokines are among the most promising. Besides being directly involved in inflammation and immune response, the role of salivary cytokines in tumor growth and progression linked them to the incidence of oral malignant lesions. In this review 27 observational studies satisfying the inclusion and exclusion criteria have been retrieved. Among the most frequent cytokines investigated as candidates for OSCC biomarkers, IL-6, IL-8, TNF-α may therefore serve as basis for the development of rapid tests for early diagnosis of oral cancer and highly sensitive diagnostic techniques by using biosensors, lower level of analytics is no longer a limitation.

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