

Cancer Facts & Stats – by Olga Tsyruk

The Role of Oral Health in Cancer Prevention

Evidence from various studies suggests a potential link between chronic infection and its associated inflammation and increased cancer risk (1). Periodontitis, also known as gum disease, is an infection of the gums that causes inflammation within the soft tissue, which if left untreated could lead to bone loss. Periodontitis causes proliferation and migration of epithelial cells, mitigated by the release of inflammatory compounds, which are known to be linked to cancer development (1).

A recent study by Nieminen et al. has shown that the bacteria associated with periodontitis, *Treponema denticola* (Td), produces an enzyme (Td-CTLP proteinase), which is found in malignant tumours of the gastrointestinal tract such as pancreatic cancer (2). This CTLP enzyme can activate other enzymes, which cancer cells use to invade healthy tissue. CTLP also could lower immune system function. In another study, poor oral health was reported to be associated with a 75% increase in liver cancer risk (3).

In addition, viruses such as salivary human cytomegalovirus (HCMV), high-risk Human Papillomavirus (HPV), and Epstein Barr virus (EBV) are frequently found in periodontitis lesions (4). HCMV is associated with cancers of the salivary gland and prostate. EBV is linked to Burkitt lymphoma, Hodgkin Lymphoma, nasopharyngeal carcinoma, and stomach cancer. HPV is involved with cancer of the cervix, vulva, penis, anus, and oropharynx (5).

All these findings suggest that compromised oral health could be a risk factor for cancer development. Thus, prevention and early diagnosis of periodontitis are critical to ensure not only oral, but also overall health of patients and reduce the burden on healthcare.

References:

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