

Periodontitis, a new risk factor for cancer

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Three important studies have been published, back to back, which report that people with periodontitis, an inflammation of the tissues surrounding teeth, are at greater risk of premature death from several types of cancers.

INFLAMMATION OF THE MOUTH

In cases of deficient oral hygiene, the bacteria which reside in our mouth can adhere to the surface of the teeth and form a sticky and whitish coating known as dental plaque. In addition to causing perforations of tooth enamel (caries), plaque can worsen over time and lead to inflammation of the gums (gingivitis) which causes considerable damage to the tissues surrounding the teeth, including the bone which serves for anchorage (periodontitis).

Periodontal diseases are not only the leading cause of tooth loss in adults, but they can also represent a threat to overall health. By creating gum lesions, the bacteria in the dental plaque can infiltrate into the bloodstream and cause chronic inflammation in various organs of the body, increasing the risk of developing certain chronic diseases.

INCREASED RISK OF CANCER

Three recent studies suggest that one of the consequences of these periodontal diseases would be an increased risk for several types of cancer. In the first study¹, analysis of the dental records for 7466 participants in the ARIC (Atherosclerosis Risk in Communities) study showed that people who had developed severe periodontitis by the beginning of the study were at 24% higher risk of developing some form of cancer over the next 15 years, an increase which was particularly pronounced for lung cancer (233%) and colon cancer (212%). According to the authors, it is likely that these increases reflect the entry of bacteria into the body since previous studies had shown that certain bacteria associated with periodontitis (*Fusobacterium nucleatum*, for example) were present in colorectal tumors and played a crucial role in their development.

Similar results were published in another study, which was performed by following 68,273 Finns over a period of 10 years². In this cohort, the presence of periodontitis was associated with a 33% increase in the risk of dying from cancer, an increase which was primarily observed for pancreatic cancer (232% increase). This is in agreement with another study showing that the presence of certain oral pathogens (*Porphyromonas gingivalis* and *Aggregatibacter actinomycetemcomitans*) was associated with a marked increase in the risk of pancreatic cancer³.



These studies remind us that the health of the mouth is inseparable from that of the body in general. Taking care of your teeth by regularly brushing them should be considered a basic measure of hygiene, which will have positive effects on the whole body by blocking the entry of pathogenic bacteria capable of supporting the progression of serious diseases such as cancer.

- (1) Michaud DS et al. Periodontal Disease Assessed Using Clinical Dental Measurements and Cancer Risk in the ARIC Study. J. Natl Cancer Inst., Published online January 12, 2018.
- (2) Heikkilä P et al. Periodontitis and cancer mortality: Register-based cohort study of 68,273 adults in 10-year follow-up. Int. J. Cancer, published online January 11, 2018.
- (3) Fan X et al. Human oral microbiome and prospective risk for pancreatic cancer: a population-based nested case-control study. Gut 2018; 67: 120-127.