

Periodontal Disease as an Increased Risk Factor for Colorectal Cancer

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Abstract

Periodontal disease (PD) is a combination of gingivitis and periodontitis caused by bacterial infection, affecting 42.2% of adults 30 years or old in the US, as of 2021. Colorectal cancer (CRC) is a common cancer that affects the colon and rectum by uncontrolled growth of malignant cells, ranked the third leading cause of death among men and second among women. While early research suggested that there was no link between PD and CRC, recent studies have shown that PD may be an increased risk factor for CRC. In order to further investigate whether PD is an increased risk factor for CRC, this literature review examines the epidemiology and biological mechanisms for each disease along with the clinical studies that investigated PD as a risk factor for CRC. Here, we analyzed multiple studies from numerous databases that discussed the relationship between periodontal disease and colorectal cancer. Our research revealed that individuals with PD are ~21% more likely to get CRC. Furthermore, it was found that the two conditions share common risk factors including smoking, genetics, and aging, as well as biological mechanisms that may explain their commonalities, such as chronic inflammation, bacterial pathogens, and a similar immune response. Further, several clinical studies have investigated the association between PD and CRC, one of which found that PD patients had 145% higher risk of developing CRC. However, to further investigate this relationship, there is a need for more observational, interventional, and clinical studies that examine the linkage between the two diseases.