



Presence of *Fusobacterium nucleatum* in the Mouth May Accelerate Colon Cancer

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ABSTRACT

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Introduction: Microbes commonly found in the human mouth can accelerate the growth of colon tumors. *Fusobacterium nucleatum* consists of several subgroups, but only one, FnaC₂, appears to be associated with the cancer. Only the FnaC₂ can move from the mouth to the stomach and then be released into the lower part of the digestive tract, including the colon. The FnaC₂ subgroup was also more common in fecal samples collected from colorectal cancer patients than in healthy people. The purpose of this study was to review the fact that this bacterium is more commonly known as the cause of dental plaque formation and gum inflammation. In recent decades, its association with colorectal cancer has been the focus of researchers.

Search Strategy: We conducted an extensive search across electronic databases, including PubMed, MEDLINE, Embase, Google Scholar, and ResearchGate, and explored the available English-language literature. The MeSH terms were "*Fusobacterium nucleatum*" OR "colorectal cancer" and "fecal samples". The search was restricted to studies published in English with accessible full texts. Review articles, duplicates, and non-relevant studies were excluded.

Results: According to the studies, 50% of colon tumors tested positive for the presence of the FnaC₂ subgroup of *F. nucleatum*.

Conclusion and Discussion: The current research offers new insights into the fight against cancer and presents a fresh perspective on its treatment. Microbial-based cellular therapies may represent a new frontier in combating colon cancer. These treatments utilize modified forms of bacteria to deliver drugs directly to the tumor. Studies indicate that a specific subgroup of this microbe is linked to cancer growth. Our finding suggests that treatments and screenings targeting this subgroup could benefit individuals at higher risk for colorectal cancer.

Keywords: Colorectal cancer, Feces, *Fusobacterium nucleatum*