

## **Gastrointestinal cancer: Relationship between histology and microbiota**

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**Objectives:** Review of the published literature concerning the relationship between microbiome and gastrointestinal cancer.

**Methods:** Present work is focused on systematic research in the most prominent biomedical databases finds relevant works in Pubmed and the library's catalog of the University of Málaga (Jábega) of published journals in the last 5 years.

**Results:** In this work, the mechanisms used by the microbiome to damage gastrointestinal epithelial cells and cause cancer are explained. Some of them are the dysbiosis, destruction of the mucosal barrier, chronic inflammation, damage caused by metabolites produced in the digestion and the direct attack of certain toxins to the cell's DNA. These mechanisms adjust the immune response, by activation or inhibition using different cytokines. There is also a deeper look into several microorganisms and how they cause gastrointestinal cancer using toxins or virulence factors to activate them.

**Conclusions:** The evidence found so far about the microbiota and gastrointestinal cancer is enough to assume the relationship between them, although there is much left to research. With these findings, it can be expected that in a near future certain microorganisms could be used for screening purposes, due to their increase in early stages of the tumor genesis and also, in a preventive way to try to eradicate them, even avoid cancer. Studies on the microbiota are hardly beginning, and results appear to be promising.

**Keywords:** gut + microbiome + cancer + precancerous + histology + microbiota