The Effect of the Presence or Absence of Enterococcus Faecalis in the Intestine on the Progression or Non-progression of Intestinal Polyps to Colorectal Cancer

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Colorectal cancer is one of the leading causes of death in the world.1 Many studies have been done on the biology and formation of colorectal cancer and its treatment in the world in recent years. One of the known causes of colorectal cancer is the intestinal microbial flora.2 Probiotics are living microorganisms that can improve or restore the intestinal microbial flora and ultimately the person’s health if used properly (3). The Lactobacillaceae family is one of the most popular probiotics. Although a large number of bacteria have probiotic properties, Lactobacillus rhamnosus and Bifidobacterium bifidum can be considered the most common probiotics in the gastrointestinal tract.4 These bacteria play significant roles in the treatment of digestive diseases.5 Enterococcus faecalis has been identified as one of the causes of oxidative stress.6 These free radicals can affect the cell cycle and lead to cancer progression.7 In addition to damaging the DNA of intestinal epithelial cells by producing reactive oxygen radicals, E. faecalis can induce the formation of colorectal cancer or polyps.8 Any manipulation in the intestinal microbial population may be reactive and can lead to a new reaction from the bacteria and the host.9 Our previous studies10,11 have demonstrated the preventive role of Lactobacillus acidophilus in the formation of polyps and colorectal cancer. The results of our recent studies on people with colorectal cancer and intestinal polyps compared to healthy people showed that the amount of L. acidophilus decreases when the population of E. faecalis increases. In other words, an increase in the population of E. faecalis in people with colorectal cancer or polyps has been reported to be associated with a decrease in the population of L. acidophilus. This could potentially signify the ability of this bacterium to induce colorectal cancer. This scenario may also be generalizable to other bacteria in inducing or curing the disease. More studies are needed to prove this theory.

Conflict of Interest Disclosures
There is no conflict of interests.

Ethical Approval
Not Applicable

References

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