

Curcumin Effects on Inflammatory Bowel Disease

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Turmeric is a spice belonging to the ginger family and native from India. It has around 300 components, among which is curcumin, a pleiotropic molecule capable of modulating the biological activity of various signaling molecules [1]. Although it has been used in cooking and as a treatment for various ailments for thousands of years, it was not until 1949 that curcumin was reported to be a biologically active compound with antibacterial properties [2].

The concept that the pathogenesis of inflammatory bowel diseases is based on an exaggerated immune response of the host against bacteria or antigens in the diet has proposed the use of curcumin as an anti-inflammatory agent in these patients [3].

Regardless of the severity, in both Crohn's disease and ulcerative colitis there is extensive epithelial damage, which alters the intestinal barrier and predisposes to bacterial translocation. Likewise, there has been an important advance in recent years in the study of the intestinal microbiome of these patients, associating specific profiles with changes in the composition of the intestinal microbiota [4,5].

The benefits of curcumin in these diseases are based on its modulatory effect on the intestinal microbiome [6], the inhibition of TLR4/NF- κ B/AP-1 signal transduction [3,7], changes in cytokine profiles, and alterations in maturation and differentiation of immune cells [8].

These effects determine an improvement in the function of the intestinal barrier due to the reduction of inflammation and bacterial translocation [7]. The results of clinical trials on the effect of curcumin in various human diseases have been heterogeneous, mainly because the composition of curcumin used in the studies varied significantly [9].

In conclusion, while curcumin could play a crucial role in the treatment of inflammatory bowel diseases, more controlled clinical trials are still lacking to confirm this. Fortunately, protocols with adequate methodological quality that are being carried out will provide updated evidence to evaluate the efficacy of curcumin in patients with inflammatory bowel disease.

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