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Functional Medicine

QUOTE GM #13

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MICROBIOTA-BASED TREATMENTS IN ALCOHOLIC LIVER DISEASE

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Microbiota-based treatments in alcoholic liver disease.

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Abstract

Gut microbiota plays a key role in the pathogenesis of alcoholic liver disease (ALD). Consumption of alcohol leads to increased gut permeability, small intestinal bacterial overgrowth, and enteric dysbiosis. These factors contribute to the increased translocation of microbial products to the liver via the portal tract. Subsequently, bacterial endotoxins such as lipopolysaccharide, in association with the Toll-like receptor 4 signaling pathway, induce a gamut of damaging immune responses in the hepatic milieu. Because of the close association between deleterious inflammation and ALD-induced microbiota imbalance, therapeutic approaches that seek to reestablish gut homeostasis should be considered in the treatment of alcoholic patients. To this end, a number of preliminary studies on probiotics have confirmed their effectiveness in suppressing proinflammatory cytokines and improving liver function in the context of ALD. In addition, there have been few studies linking the administration of prebiotics and antibiotics with reduction of alcohol-induced liver damage. Because these preliminary results are promising, large-scale randomized studies are warranted to elucidate the impact of these microbiota-based treatments on the gut flora and associated immune responses, in addition to exploring questions about optimal delivery. Finally, fecal microbiota transplant has been shown to be an effective method of modulating gut microbiota and deserve further investigation as a potential therapeutic option for ALD.

KEYWORDS: Alcoholic liver disease; Gut; Microbiota; Probiotics; Treatment

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