

Title: Role of the gut microbiota in the modulation of the gut-brain axis in alcohol use disorders: experimental approaches and clinical implications

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Abstract:

It is well established that alterations of the gut microbiota composition can disturb many aspects of host physiology, including metabolism, immunity and the central nervous system with consequences for brain functions and behavior. Our studies showed that alterations of the gut microbiota composition of alcohol-dependent (AD) patients were associated with high scores of depression, anxiety and alcohol craving, as well as low score of sociability, suggesting the existence of a gut-brain axis in AD patients. The transplantation of the fecal microbiota of AD patients into mice induced depression-like behavior and reduced the social interactions in the recipient mice. Nutritional interventions aiming at modulating the gut microbiota showed beneficial effect on sociability in AUD patients. We are currently exploring in more detailed the relationship between intestinal bacteria and social behavior.