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# Microbiota and mental health with the emphasize of the role of autoantibodies

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The gut microbiota is increasingly recognized as a complex signaling network that impacts on many systems beyond the enteric system modulating, among others, cognitive functions including learning, memory and decision-making processes. This has led to the concept of a microbiota-driven gut-brain axis, reflecting a bidirectional interaction between the brain and the gut. Immune mechanisms that maintain intestinal homeostasis tend to minimize contact of intestinal bacteria with the gut epithelium. A breakdown in homeostasis usually leads to overproduction of various inflammatory mediators which promote epithelial and endothelial injury and dysfunction leading to ulcerations, fibrosis, and edema. Recently new data further validates a role for molecular mimicry and auto- antibodies in mediating the gut-brain axis and subsequently participating in the development of depressive and brain related disorders. Understanding the pathophysiologic mechanisms involving the bidirectional brain- gut axis signaling and the impact of alteration of gut-microbiota on functional and behavioral changes in animals as well as in clinical studies could help to suggest that modulation of the gut-microbiota by therapeutic (e.g. probiotic and pre-biotic) agents opens a new promising strategy for stress-related disorders, particularly in the aspects of functional GI disorders.

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