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Introducing a novel integrative method named 'Immunoneuropsychoanalysis'

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The arising area of research that uncovers the importance of the microbiota-gut-brain axis implicates a need to apply this redefined concept of human biology and physiology in the area of mental health and well-being. The microbiota is numerically constituted of three times more living cells than a single human individual is. These microbes produce metabolites which have a direct impact on the function of the gut, but also repercussions on systemic immunology and the nervous system. The intestinal lining is an important barrier in physical and immunological terms and the enteric nervous system plays a major role in neurotransmitter synthesis, e.g. serotonin and dopamine. By elucidating the mechanisms of peripheral and central nervous system interconnections and with the recent finding of the brain's own lymphatic system, dubbed the glymphatic, a major role for immunological cells such as microglia is determined. The polarization of microglia, which is different in regards to the immunological homeostasis or allostasis present, defines the millieu for neurons. Ultimately, through neurobiological mechanisms it generates stable or unstable mental and cognitive states producing symptoms, such as depression, anxiety etc. Traditional psychoanalysis represents a valuable framework for psychodynamic concepts and tools, both theoretical and practical. By reviewing it through modern neuroscientific techniques unavailable previously, the path was paved for evidence based neuro psychoanalysis. By adding the new findings from the areas of microbiome research, immunology and the significance of gut-brain interactions, a step further would be called 'Immuno neuropsychoanalysis'. Accordingly, keeping a bidirectional integrative interpretation as the main conceptual approach should be the ultimate goal.

Biography

Karlo Toljan is a final year medical student at University of Zagreb School of Medicine. He is a leading member of the Student Society for Neuroscience as well as a student assistant at various departments at his medical school (Internal Medicine, Pathophysiology, Physiology and Immunology). In addition he's been an editor at student academic journal Gyrus since 2014. Recently, his areas of interest include psychobiotics, psychoanalysis and integrative approach in medicine. He considers himself a neuro-enthusiast and attends as much symposia and conferences with neuro-topics as possible. He's active on Twitter, LinkedIn and Research Gate where you may also find his publications.

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