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Neuroimmunology meets Immunopsychiatry: A role for inflammation and Hypovitaminosis-D in multiple sclerosis and neuropsychiatric disease?

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Classical Neuroimmunology concentrates mainly on multiple sclerosis and its animal model experimental autoimmune encephalitis. It has provided great insight into Neuroinflammation and our understanding of basic immunology. The field of immunopsychiatry is very young and studies the connection between the brain the immune system and assesses the impact of peripheral immune mechanisms on behaviours and emotions. Multifactorial diseases/disorders such as multiple sclerosis (MS), schizophrenia, chronic tic-disorder, autism spectrum disorder and attention deficit/hyperactivity disorder (ADHD) are caused by the effects of multiple genes in combination with environmental risk factors. This is highlighted by the fact that estimates of heritability of monozygotic twins in all these diseases/disorders are less than 100%, which asserts quite strongly that environmental factors are involved. I will present data on the role of environmental risk factors such as Hypovitaminosis-D and Epstein-Barr virus infection in MS and of Hypovitaminosis-D in children with chronic tic disorder and comorbid ADHD. The identification of environmental risk factors is of great interest as they may be modifiable in contrast to the genetic susceptibility and signpost novel strategies for prevention and treatment.

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