Advances in multiple sclerosis research

Multiple sclerosis (MS) is an autoimmune disease of the central nervous system and is one of the most common causes of disability in young adults. From a pathological perspective a triad of inflammation, demyelination and neurodegeneration characterizes this disease. MS patients can suffer from a plethora of symptoms, among which stand the sensorimotor, cerebellar, emotional and cognitive manifestations. The last decade has witnessed an impressive pharmacological development that has offered more efficient therapeutic strategies that the ones available in the last century. Despite these advances, several symptoms remain unnoticed, are poorly assessed and lack adequate treatment. In this context fatigue, pain, sleep disorders, emotional disturbances and cognitive manifestations could be perceived as “silent symptoms” that could seriously alter the quality of life of MS patients and are usually overlooked in this population.

Therefore, research is highly needed in order to properly address the pathophysiology of these symptoms, propose new screening tools and most importantly assess innovative therapeutic interventions. The aim of this Research Topic is to shed light on the utility of innovative approaches in MS. This concerns original research that applies clinical, molecular, cellular, or neuroimaging approaches to unravel the underlying mechanisms of MS-related symptoms. In addition, testing new pharmacological agents or alternative interventions in this context would be of great interest. Review articles that analyze the current literature on the above-mentioned topics are welcomed. Case reports also fall within the scope of this subject. Research involving animal models of MS would also be considered.

Furthermore, works that aim to explore the brain physiology in this disease allows a better understanding of the underlying mechanisms of MS related symptoms, and would pave the way to the development of objective tools to monitor their clinical evolution and therapeutic responses.

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