The 2nd International Neuroinflammation Congress
and 2nd Student Festival of Neurosience
Shefa Neuroscience Research Center, Tehran, Iran, 17-19 April, 2018
The Neuroscience Journal of Shefaye Khatam
Volume 6, No. 2, Suppl 1

Oral Presentation

Principles of Treatment in Neuro-Inflammation Disorders

Mohsen Foroughipour*

Department of Neurology, Mashhad University of Medical Sciences, Mashhad, Iran

Published: *17 April, 2018*

Abstract

Treating Central Nervous System (CNS) neuro-inflammational disorders is of great importance. A key aspect of this treatment includes regulation of Cell-Mediated and humoral immune systems. Previous treatment mostly consisted of systemic immunosuppressive drugs. In addition to having adverse side effects, these drugs were also inefficient, such as methotrexate- Cyclophosphamide-Azathioprine. Recent advances in medicine introduced more effective methods with less side effects, including: Intravenous Immunoglobulin (IVIG): Using IVIG neutralizes Pro-inflammatory antibodies, thus regulating the inflammation. It is widely used in treating Guillain-Barre syndrome. Plasma Exchange: In this method antibodies are removed; Therefore significantly reducing the inflammation. This method is mainly used in treating central and peripheral nervous system inflammations such as Guillain-Barre syndrome and Neuromyelitis optica. Interferons: The main effect of interferons is the regulation of cell-mediated immunity as in treating Multiple Sclerosis. Monoclonal antibodies: Introduction of new monoclonal antibodies has made treatments far more specific, helping us to target immune cells that have key roles in immunosuppressive disorders such as CD19 and CD20. These drugs act either by preventing sensitized cells from entering CNS like Natalizumab or directly inactivating these cells. In conclusion, these novel methods may pave the way for better and more effective treatments in the future.

Keywords: Natalizumab, CD19, T cells

****Corresponding Author:*** Mohsen Foroughipour
E-mail: *foroughipourm@mums.ac.ir*

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