Natureza do trabalho: Resumo Revisão de Literatura

TÍTULO

OVERVIEW OF MULTIPLE SCLEROSIS AND ITS TREATMENT USING INTERFERON BETA

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RESUMO

Introduction: Multiple sclerosis (MS) is a chronic and progressive inflammatory disease of the central nervous system. It is most frequently found in women aged between 20 and 40. In Brazil, there are about 35,000 people with MS; the highest incidence is in the south and southeast of the country. **Objectives:** This paper outlines the general aspects of MS and highlights the improvements in treatment which have been achieved. **Materials and methods:** The data were collected from scientific articles published between 2000 and 2015 through the CAPES, MedLine and PubMed platforms of national and international research. The following keywords were used: multiple sclerosis, interferon beta, and treatments. **Results and discussion:** It is believed that MS is the result of a combination of genetic predisposition and an unknown environmental factor, which causes a self-injurious character dysfunction of the immune system in relation to white matter. This results in the loss of oligodendrocytes and myelin and, consequently, failures in the conduction of nerve impulses, which leads to the appearance of symptoms. This demyelination affects multiple regions of the neuraxis, which explains the variety of clinical manifestations of MS. Diagnosis is performed by imaging and clinical manifestations. The relapsing-remitting form of disease is prevalent among patients with MS; it occurs in 70-80% of cases and is characterized by exacerbations followed by a variable degree of improvement of the neurological deficit, which may be complete or which may evolve as a residual symptomatic dysfunction. Treatment with beta interferon (IFNβ) has shown success in the remission of symptoms. These proteins act in cellular, antiviral and antiproliferative functions and also in immunoregulation. IFNβ continues to be one of the most used medicines in relation to the relapsing-remitting form of MS due to its ability to modulate the activity of T and B cells, its effects on the blood-brain barrier, and its neuroprotective role, which induces the release of growth factor of astrocytes or enhances the protection of the neurons themselves. IFNβ is used to treat outbreaks; to prevent future exacerbations and the subsequent progression of disease; and also in the treatment of complications. Although the mechanisms by which IFNβ achieves its therapeutic effects are poorly understood, this drug has a good safety profile, transient side effects, and it is well tolerated by patients. Studies have shown that the use of IFNβ in patients with the relapsing-remitting form of MS showed a tendency to reduce the frequency and severity of outbreaks and a slower progression of the disease in a significant proportion of treated patients. **Final considerations:** MS is a treatable disease and neurological disabilities can be prevented or delayed with the use of specific drugs. Due to the increasing use of IFNβ in the treatment of MS, it is recommended that further research and more case studies are performed to gain additional information about progress in treatments using IFNβ, as well as carrying out close monitoring of these patients in order to prevent the complications described in the literature.

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