Current Issue
Browse Issues
Search
About this Journal
Instruction to Authors
Online Submission
Subscription
Contact Us
RSS Feed

Acta Medica Iranica
2009;47(4) : 177-182

Nerve Growth Factor Prevents Demyelination, Cell Death and Progression of the Disease in Experimental Allergic Encephalomyelitis

Azita Parvaneh Tafreshi

Abstract:

Experimental allergic encephalomyelitis (EAE), a demyelinating disease induced in the animals parallels multiple sclerosis in human in several aspects, provides a useful model to investigate multiple sclerosis. In this study, we have therefore used this model to study functions of nerve growth factor (NGF) in EAE. NGF with considerable effects on neuron survival, proliferation and differentiation of the nervous system, is also known to act on cells of the immune system. Simultaneous upregulation of proinflammatory cytokines and increased level of NGF points at possible effects of the nerve growth factor in autoimmune diseases. To investigate roles of NGF in experimental allergic encephalomyelitis in vivo, we therefore decided to apply it intracerebroventricularly at a dose of 0.20 mg/mice prior to the induction of EAE. Our clinical observations showed that in the EAE induced animals who received NGF, severity of the disease was reduced significantly compared to that in saline treated EAE mice. Also neuropathological investigation of spinal cords revealed that in contrast to saline treated EAE mice, no signs of cell death, infiltration and demyelination can be seen in NGF treated EAE mice, suggesting that NGF may have clinical implications in multiple sclerosis.

Keywords:

Myelin ، Nerve growth factor ، Spinal cord

TUMS ID: 2920

Full Text HTML Full Text PDF 258 KB

top