

Invited Speaker 4

Toxicity as a trigger to neuroinflammation

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Abstract

The world is evolving rapidly, and humankind must continuously adapt to these emerging realities. Chronic, unresolved inflammation is now a major driver of disease [1]. Social, environmental, and lifestyle factors contribute to systemic chronic inflammation, which in turn can lead to various diseases that represent the primary causes of disability and mortality worldwide. Neuroinflammation may be triggered by several factors, including infections, traumatic brain injury, autoimmune diseases, and exposure to toxins or chemicals. Toxic substances such as heavy metals, pesticides, herbicides and insecticides, vaccine components, plasticizers, air pollutants, and certain medications can directly damage neurons or disrupt normal cellular functions in the brain. This damage can activate immune responses in the brain, leading to the activation of microglia. Activated microglia release pro-inflammatory cytokines, chemokines, and reactive oxygen species, which can harm neurons and impair normal brain function [2-4]. Chronic and excessive neuroinflammation can be detrimental and contribute to the onset and progression of neurological disorders such as Alzheimer's disease, Parkinson's disease, multiple sclerosis, among others [4]. Functional and Integrative Medicine, building on the principles of Environmental Medicine and Toxicology, employs laboratory diagnostics to assess patients. Subsequently, modern therapeutic detoxification methods are applied, including therapeutic apheresis, chelation with EDTA, and orthomolecular supplementation. It is urgent that we focus on this issue to assist populations in avoiding contamination and toxicity and to establish governmental policies for our protection.

Keywords: toxicity; neuroinflammation; integrative functional medicine

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