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

Poster Presentation

Effect of Air Pollution on Alzheimer's Disease

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Published: *17 April, 2018*

Abstract

Alzheimer, a chronic neurodegenerative disease, usually starts slowly and worsens gradually. It causes 60% to 70% of dementia cases. Difficulty in remembering recent events (short-term memory loss) is the most prominent early symptom. As the disease progresses, patients may have problems such as impaired language, disorientation (including easily getting lost), mood swings, loss of motivation, not managing self-care, and behavioral issues. The potential damaging effect of air pollution on the central nervous system is also investigated and there's mounting evidence of a link between air pollution exposure and neurodegenerative pathologies, especially Alzheimer's disease. Air pollution is thought to increase the risk of neurological diseases by developing neuro-inflammation, oxidative stress, glial activation and cerebrovascular damage. In animal models, contaminated particles can activate microglial cells and increase the secretion of IL-6, IL-1b, and TNF-a, leading to neuro-inflammation. Also, exposure to complex mixtures of air pollutants produces inflammation in the upper and lower respiratory tract and causes systemic inflammation; As a result, neuro-inflammation and neuropathology then lead to Alzheimer. In polluted regions, we expect a higher level of systemic inflammation, prefrontal white matter hyper-intensities, and hallmarks of Alzheimer.

Keywords: Air Pollution, Neuro Inflammation, Neuropathology, Alzheimer`S Disease

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