Effect of Neurotoxins on Living beings

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Introduction

Over 1,000 chemicals are known to be neurotoxic to animals. Substances include a wide variety of natural and man-made compounds, from snake venom and pesticides to ethyl alcohol, heroin and cocaine. Neurotoxins are ingested by inhalation, ingestion, skin contact, or injection and can have immediate or long-term effects by causing neuronal dysfunction or disrupting communication between neurons. For example, slurred speech and impaired coordination due to the toxic effects of alcohol consumption on neurons are temporary, whereas cognitive impairment due to lead exposure is irreversible.

Description

Certain neurotoxins are so potent that they have been incorporated into chemical weapons. For example, the neurotoxin sarin is an organophosphate compound classified as a weapon of mass destruction. Sarin gas can kill a person within 10 minutes of his exposure [1]. Young people and the elderly are particularly vulnerable to neurotoxic chemicals. In the elderly, age-related declines in neurological function may limit the ability to cope with neurotoxic effects. This is especially true when liver metabolism and kidney function, which are the primary pathways for excretion of toxins from the body, are impaired [2]. Prenatal, postnatal, and early childhood exposure to certain chemicals can permanently damage the developing brain and cause functional impairment. Studies have shown that the placenta cannot prevent the transmission of many toxins from the mother to the fetus. A term used to describe exposure to (neurotoxins). Some of these neurotoxins act directly on nerve cells, while others interfere with metabolic processes that rely heavily on the nervous system. Neurotoxicity is a side effect of chemotherapy, radiation therapy, drug therapy, organ transplantation, and exposure to heavy metals such as mercury and lead, certain foods, pesticides, industrial products, and solvents used to clean cosmetics and pharmaceuticals might happen [3]. Symptoms of poisoning may appear immediately after exposure or may take longer to appear. These symptoms may include encephalopathy, weakness or numbness in the limbs, cognitive and behavioural disturbances. After eliminating or reducing exposure to hazardous chemicals, symptomatic and supportive care is provided. Prognosis is highly variable and depends on the duration and depth of vulnerability and the degree of neuropathy. Susceptibility to neurotoxins can be fatal in rare cases. In some cases, patients can survive without a complete cure. Otherwise, many people make a full recovery after treatment. If you have children, it's important to be aware of her next 10 neurotoxins [4]. Because children's bodies are still developing, they are often the most vulnerable to ingesting these dangerous substances. Most foods containing neurotoxins are listed on the ingredients list. Processed foods such as potato chips and candy usually contain neurotoxins.

Conclusion

Neurotoxins are substances, whether naturally occurring or man-made, that can damage the "brain and spinal cord" of the central nervous system. Some toxins are harmful in any amount, while others can be tolerated at low doses but can have adverse effects when overloaded, acting as neurotoxins. Although their interactions differ, there are some common effects that cause inflammation in the brain Neurotoxins can damage neurons, axons, and/or glial cells, causing loss of specific nuclear and/or axonal pathways, or demyelination.

Acknowledgement

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Conflict of Interest

None.

References

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