

Neurotoxic and Behavioral Effects Associated with Various Drugs Use †

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Abstract: According to the National Academy of Medicine report, some groups of medicines that are used to treat allergies, anxiety, colds, and flu can cause depression, sleeping problems, and psychosis may interfere with brain function, including cognition. Various drugs interfere with the way neurons send, receive, and process signals via neurotransmitters. Some commonly used drugs can activate neurons as their chemical structure is similar to natural neurotransmitters of the body. This allows the drugs to bind with and activate the neurons. These drugs don't activate neurons differently and thus lead to abnormal messages being sent through the network. A review of published literature on the neurotoxicity and neurobehavioral effects of widely used drugs was conducted by searching and analyzing literature databases. Drugs like cisplatin and taxanes are used to treat cancer, and certain antibiotics can induce neurotoxic side effects. Certain leukotriene receptor antagonists such as montelukast and zafirlukast recommended to be used to treat asthma, may cause psychiatric adverse effects in children such as sleep disorder, anxiety, aggressiveness, and hyperactivity. Some medicines have anticholinergic effects and may cause patients to experience confusion, memory loss, and other cognitive problems as it blocks one of the chemicals of brain cells. Awareness of the potential neurotoxic consequences of various drugs in patients is essential for identifying serious complications related to these drugs.

Keywords: neurotoxicity; depression; montelukast; antibiotics; behavior.

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Conflicts of Interest

The authors declare no conflict of interest.