

## **Chemicals used for the induction of Alzheimers disease-like cognitive dysfunctions in rodents**

### **ABSTRACT**

Alzheimer's disease (AD) is the most frequent and multifactorial form of dementia, characterised by multiple cognitive impairments and personality changes. Different methods including chemicals have been used to induce AD-like symptoms in rodent in order to screen many therapeutic drugs for a variety of cognitive dysfunctions. Articles from reliable databases such as Google Scholar, Science Direct, PubMed, Scopus, and Ovid were searched and retrieved with the following descriptors: 'Alzheimer's Disease', Cognitive impairments', Neurotoxins that induce AD', Alzheimerogenic chemicals', excitotoxins', Amyloid beta', neurofibrillary tangles. A number of chemicals have been studied to develop an animal model of AD on the basis of their mechanism of action for cognitive dysfunctions. Some of such chemicals are Heavy metals, Scopolamine, Ethanol, Colchicine, Streptozotocin, Lipopolysaccharide, and Okadaic acid among others, with a view to understanding the pathogenesis of this devastating disease. The purpose of this review is to put forward some AD pathophysiology including AD causative theories and also highlight some Alzheimerogenic chemicals for the purpose of enriching our existing knowledge. It is worth mentioning that not all the biochemical, histopathological, cognitive and behavioural abnormalities can be recapitulated. Nonetheless, experimental models of AD produced by chemicals offer insights to unravelling the pathogenesis of the disease.

**Keyword:** Alzheimerogenic chemicals; Cognitive dysfunction; Alzheimer's disease; Alzheimer's pathogenesis; Amyloid beta