

Abstract

Alzheimer's disease is one of the most common neurodegenerative disorder that results in altered network activity, in particular cognitive decline. Majority people with AD experience memory impairment, poor judgment, disorientation and learning difficulties. Several hypotheses try to explain the cause of the disease, but it's poorly understood. Due to the fact that changes in brain structure arise years before clinical symptoms emerge, the available therapeutic treatments can only reduce the impact of neurodegeneration, but not to reverse. Interneurons, as a part of neural circuits, play an important role in the formation of cognitive abilities. Most of interneurons in CNS are inhibitory and they effectively control the network synchrony. Network hypersynchrony is an increased synchronization of neural activity and it's linked to AD pathology. Dysfunction of interneurons is resulted in altered network activity in patients with AD.

Keywords: AD, brain, rat, interneurons, hypersynchrony.