

Abstract

Active allothetic avoidance task (AAPA) could be a useful tool to study cognitive deficit of schizophrenia. In this task two different reference frames are created. The subject should distinguish which oriental frame is relevant for navigation and is proper for the solution of the task. This ability is called cognitive coordination. It is proved that the process of cognitive coordination is impaired in schizophrenic individuals, which comes to light in a Stroop test. Schizophrenia-like behavior can be modelled on the rats by a non-competitive NMDA receptor antagonist dizocipiline (MK-801).

The aim of these thesis was to study the existence of alternative strategies and the influence of different habituation on the performance of rats within AAPA. Furthermore, we have been studying the influence of MK-801 at a dose of 0.15mg / kg on the cognitive coordination in this task.

We have found that the rats are able to learn AAPA task after pre-training without distal orientation cues, using relatively efficient alternative strategies. In these alternative strategies the idiothetic navigation is applied. The performance of rats in AAPA task is influenced by different conditions during habituation. We have proved that MK-801 at this dosage has no effect on cognitive performance of the rats in AAPA task, but we have found the effect of MK-801 on the increase of locomotion.

Keywords: spatial behavior, schizophrenia, cognitive coordination, AAPA, dizocilpine (MK-801)