P01-437

EFFECTS OF DOPAMINERGIC DRUGS IN THE DORSAL HIPPOCAMPUS OF RATS IN THE MK801-INDUCED ANXIOLYTIC-LIKE BEHAVIOR

M.R. Zarrindast[1], M. Nasehi[2], M. Pournaghshband[3]
[1]School of Cognitive Sciences, Institute for Research in Fundemental Sciences (IPM), Tehran, [2]Department of Biology, Faculty of Basic Sciences, Azad University, Garmsar Branch, Semnan, [3]Department of Pharmacology and Toxicology, Azad University, Pharmaceutical Science Branch (Iaups), Tehran, Iran

Introduction: Excitatory transmission through glutamate receptors constitutes the main mode of synaptic signaling in the brain regions that are critical for cognition such as learning and anxiety.
Objectives: The possible involvement of dorsal hippocampal (intra-CA1) dopaminergic receptor mechanism on the anxiolytic-like response induced by NMDA receptor antagonist, MK801 has been investigated in the present study.
Methods: The male wistar rats were used and the elevated plus maze apparatus has been used to test parameters (%OAT, %OAE, locomotor activity, grooming, rereading and defection) of anxiety-like behaviors in the present study.
Results: The data indicated that intra-CA1 administration of MK801 (2 µg/rat, intra-CA1) increased %OAT and %OAE but not other exploratory behaviors, indicating an anxiolytic-like response. Moreover, intra-CA1injection SCH23390 (0.25, 0.5 and 1 µg/rat) and sulpiride (0.25, 0.5 and 0.75 µg/rat) by itselves, 5 min before testing have no effect on exploratory behaviors. On the other hand, co-administration of ineffective dose of SCH23390 (0.5 µg/rat) with ineffective dose of MK801 (1 g/rat) increased %OAT but not other exploratory behaviors, suggestion anxiolytic-like behaviors. Furthermore, intra-CA1 administration of different doses of sulpiride (0.12, 0.5 and 0.75 µg/rat) 5 min before injection of effective dose of MK801 (2 µg/rat) decreased %OAT and %OAE but did not other exploratory behaviors induced by MK801.
Conclusion: The results may indicate modulatory effect dopaminergic system of CA1 in the anxiolytic-like response induced by MK801.

https://doi.org/10.1016/S0924-9338(11)72148-4 Published online by Cambridge University Press