

عنوان مقاله:

Intra-periaqueductal Grey Matter Injection of Orexin A Attenuates Nitroglycerin-induced Deficits in Learning and Memory in Male Rats

محل انتشار:

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خلاصه مقاله:

This study explored the potential contribution of Orx1R within vIPAG to the learning and memory of animals with chronic migraine-like pain. Migraine was induced by repeated i.p. administration of nitroglycerin (5 mg/kg). Passive avoidance adeptness was evaluated in the shuttle box maze. The spatial memory performance was estimated using MWM tests. In the MWM task, NTG-injected rats revealed an imperative increase in escape latency and traveled the distance to catch the stage and a decrease in the time spent to pass into the goal zone in comparison to the control animals. Such NTG-evoked responses were attenuated by the post-treating intra-vIPAG injection of orexin A at 100 but not 25 and 50 pM. Furthermore, in the shuttle box test, NTG-treated rats showed eversion memory retrieval impairment as reflected by decreased phase through latency and longer time spent in the black chambers of the maze. Administration of orexin A at 50 and 100 pM could suppress NTG-related eversion memory deficiency in rats. However, orexin A (100 pM) aptitude to preserve memory performance, in both MWM and shuttle box tasks, was significantly prevented by SB334867 (20 nM) as an Orx1R antagonist. Overall, these data support the role of Orx1R within vIPAG to modulate migraine-related cognition deficits in rats.

کلمات کلیدی:

Migraine, Nitroglycerin, Orexin A, learning and memory, Rats

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