

عنوان مقاله:

ROLE OF 5-HT₃ RECEPTORS BLOCKADE IN THE ENTORHINAL CORTEX ON THE DISCRIMINATION INDEX IN NOVEL OBJECT RECOGNITION IN THE ELECTRICAL AMYGDALA KINDLED RATS

محل انتشار:

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خلاصه مقاله:

Background and Aim : Epilepsy is one of the most common neurological disorders that generally refers to an episodic seizure resulting from the sudden, intermittent and excessive discharge of brain neurons, and human knowledge about the mechanisms for creating And its definitive treatment is still flawed. The hippocampus is known as the most important focal point for the development of complex local epilepsy in humans, and most neuropharmacologic and electrophysiologic information on temporal lobe epilepsy (the most abundant epilepsy in adults) is based on studies from the hippocampus. The aim of this study was to determine the role of block of 5-HT₃ receptors of intrinsic cortex receptors on the diagnostic memory of amygdala electrical kindling in male rats. **Methods :** Male Wistar rats (weighing 270–350 g) were used in this study. Animals were assigned to seven groups as control, sham, kindled, kindled + vehicle, kindled + Ramo. 1µg, kindled + Ramo. 10µg, kindled + Ramo. 100µg. In kindled + vehicle group, animals were injected with ramosetron vehicle and then received the kindling stimulations. In kindled + Ramo. 1 µg group, animals were injected with ramosetron 1µg / 0.5 µl (ICV) and then received the kindling stimulations 24 h after applying the vehicle injection. In kindled + Ramo. 10 µg group, animals were injected with ramosetron 10 µg / 0.5 µl (ICV) and then received the kindling stimulations 24 h after applying the vehicle injection. In kindled + Ramo. 100 µg group, animals were injected with ramosetron 100µg / 0.5 µl (ICV) and then received the kindling stimulations 24 h after applying the vehicle injection. At the end of each stage, the Novel Object behavior test was performed. **Results :** The blockade 5-HT₃ receptor using the selective antagonist of this receptor significantly increased the discrimination index in the novel object recognition test in all three doses compared to the Kindled + vehicle group. **Conclusion :** In this study, it was observed that Kindling leads to disfunction in the recognition memory, and acute injection of 5-HT₃ receptor selective antagonist leads to improved recognition memory. Therefore, Ramosetron as 5-HT₃ receptor antagonist, possibly with the release of acetylcholine at the synaptic space, can improve memory and learning disorders caused by electrical amygdala kindling.

کلمات کلیدی:

Epilepsy, 5-HT₃ Receptors, electrical kindling, Seizure, Amygdala, Entorhinal Cortex

