

Conclusion : : The results showed that probably melatonin by changing in performance ion channels, particularly sodium and potassium could prevent epilepsy burst activity and PTZ_ induced epileptiform activity, and accurate mechanism understanding of melatonin performance and its influence on ion channels needs to be obtained by voltage clamp experiment.

Keywords : : Melatonin, Pentylentetrazole (PTZ), Intracellular recording, Helix aspersa, valproate sodium

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The effect of photoperiod changes on thermal and chemical pain in male rat

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Background and Aim : : Many behavioral and physiological processes exhibit periodic oscillations termed biological rhythms that are differentially influenced by either central or peripheral clocks in mammals. Photoperiods plays an essential role in the synchronization of metabolism, physiology and behavior to the cyclic variations of the environment. Variation in the production of opioid receptors over a 24-h period and melatonin association as a biomarker of physiological and behavioral rhythmic changes with opioid system, is considered to contribute to photoperiodic alterations in pain perception. Despite numerous investigations on the effect of circadian rhythms on pain perception, findings related to this issue remain inconsistent. This study aimed to assess the effect of duration of different photoperiods on pain perception in rat. In this study, the possible changes in the photo period on chemical and thermal pain was investigated.

Methods : : In order to investigate of pain, tail flick method and formalin test was used. Separate groups of rats were tested in 5 groups including: control, 24h light, 24h dark, 8h light/16h dark and 16h light/8h dark.