Institute of Experimental Morphology, Pathology and Anthropology with Museum
Bulgarian Anatomical Society

Acta morphologica et anthropologica, 25 (1-2)
Sofia ● 2018

Effects of Agomelatine and Lacosamide on Kainate-Induced Status Epilepticus, Epileptogenesis and EEG Seizure Activity in Wistar Rat

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The antidepressant Agomelatine (Ago), unlike to classical antidepressants, possesses an unique receptor profile by activation of MT1 and MT2 receptors and antagonism on 5-HT2C receptor. The aim of the present study was to explore the effect of Ago on kainate (KA)-induced status epilepticus (SE) and chronic epilepsy in Wistar rats. Repeated i.p. injection with Ago (40 mg/kg) at the 1st, 6th, 24th, 32th, 48th h after KA neither alleviated the number of paroxysmal events and their duration (electrographic seizures) during SE nor EEG and behavioral spontaneous seizures during the chronic phase of epilepsy. The positive control with lacozamide (LCM) (50 mg/kg) significantly alleviated the SE-induced epileptiform activity. The present results revealed that Ago is unable to prevent SE and is ineffective against EEG registered spontaneous seizures.

Key words: status epilepticus; EEG; agomelatine; lacosamide; BDNF/TrkB