Article: 0906
Topic: EPW09 - e-Poster Walk Session 09: Schizophrenia part 1

Enhancement of Frequency Rate of Basolateral Amygdala Neurons Activity by Mglur1 Receptors Agonist in Developmental Schizophrenic Models

M. Ahmadi[1], A. Sajadian[1], B. Khodaie[1], F. Karimzadeh[2], A. Lotfinia[2]

[1]Neuroscience, Shefa Neuroscience Research Center, Tehran, Iran ; [2]Neuroscience, Cellular and Molecular Research Center Iran Medical University, Tehran, Iran

Schizophrenia is a developmental neuropsychiatric disorder which affects nearly 1% of the world population. Disturbances in dopaminergic and glutamatergic transmission have been implicated in the pathological mechanism of this disease. Psychosocial stress in the form of maternal deprivation and social isolation (SI) during early postnatal life results in long-term effect on neuroendocrine, immune adaptation, disrupt brain development and profoundly affect wide-range of behaviours in adult animals. Recent studies indicated that in awake rats, blocker of Ionotropic of Glutamate receptors increased corticolimbic firing activity.
In this present study demonstrated alternation of single-unit record of basolateral amygdala nucleus (BLA) represented in activity of mGluR1 in post-weaning SI. Firing rates increased during injection of mGluR1agonist and SI states. Short-latency auditory responses (12–25 msec) were found in the BLA($p<0.05$). Metabotropic glutamate neurons in the BLA most typically responded in a sustained fashion. Several cells in the BLA showed preferences for high frequencies, tone bursts, or frequency-modulated stimuli with center frequencies above 12 kHz in normal condition but response latencies were considerably longer in other areas of the BLA in SI condition($p<0.05$). This study might be altered the electrophysiological parameter of BLA in animal model of schizophrenia by enhancement of mGluR1.

https://doi.org/10.1016/S0924-9338(15)30706-9 Published online by Cambridge University Press