P-1234 - THE EFFECT OF 5-HT2A, D2 AND AMPA ANTAGONISTS AND AN MGLU2/3 AGONIST ON QUANTITATIVE EEG IN ANIMAL MODELS OF PSYCHOSIS

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Introduction: Schizophrenia has been associated with disrupted neural networks, which can be documented by the changes in EEG. NMDA antagonists as well as 5-HT2 agonists induce psychosis-like symptoms in animals and humans.
Objectives: Spectral analyses of NMDA antagonists/5-HT2 agonists have been performed by many authors, however no EEG coherence and spectra was analyzed with a higher number of cortical electrodes.
Aims: The aim of this study was to compare the effect of mGlu2/3 agonist, 5-HT2A/D2 antagonist, D2 antagonist and AMPA antagonist on quantitative EEG changes in glutamatergic and serotoninergic animal models of psychosis.
Methods: Male Wistar rats were treated with either NMDA antagonist or 5-HT2A agonist. Subsequently mGlu2/3 agonist, 5-HT2A/D2 antagonist, D2 antagonist or AMPA antagonist were applied. Stereotactical implantation of 14 electrodes was performed before EEG recording. During EEG recording, the signal was recorded simultaneously from 12 implanted electrodes located bilaterally in frontal, parietal and temporal regions while the animal's behavior was continuously observed. Subsequent power spectral analysis and the EEG coherences were assessed with the observed passive behaviour.
Results: Agonist of mGlu2/3 receptor normalized power spectral changes induced by ketamine. AMPA antagonist had an only partial effect on power after administration of MK801 without any effect on 2C-B. Both D2 antagonists partially normalized power spectral changes. In EEG coherences, intra- and interhemispheral changes in both animal models of psychosis were not completely normalized by applied treatments.
Conclusion: The presented data will be discussed in relation to data already identified, as well as data found in schizophrenic patients.

https://doi.org/10.1016/S0924-9338(12)75401-9 Published online by Cambridge University Press