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EFFECT OF PEROSPIRONE ON P300 ELECTROPHYSIOLOGICAL ACTIVITY AND SOCIAL COGNITION IN SCHIZOPHRENIA: A THREE-DIMENSIONAL ANALYSIS WITH (S)LORETA

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The purpose of this study was to determine if perospirone, a second generation antipsychotic drug and partial agonist at serotonin-5-HT_{1A} receptors, enhances electrophysiological activity, such as event-related potentials (ERPs), in frontal brain regions, as well as cognitive function in subjects with schizophrenia. P300 current source images were obtained by means of standardized low resolution brain electromagnetic tomography (sLORETA) before and after treatment with perospirone for 6 months. Perospirone significantly increased P300 current source density in the left superior frontal gyrus, and improved positive symptoms and performance on the script tasks, a measure of verbal social cognition. Perospirone also tended to enhance verbal learning memory in patients with schizophrenia. There was a significant correlation between the changes in P300 amplitudes on the left frontal lead and those in social cognition. These results suggest the changes in three-dimensional distribution of cortical activity, as demonstrated by sLORETA, may mediate some of the actions of antipsychotic drugs. The distinct cognition-enhancing profile of perospirone may be related to its actions on 5-HT_{1A} receptors.

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