

**Evaluation of Neurotherapy Program for a Patient with Clinical Symptoms of Schizophrenia and Severe TBI Using Event-related Potentials**

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**Background:** *Despite recent interest in the brain/mind problem and the possible organic correlates of mental disease, relatively few case studies have examined the problem concretely. I examined the effectiveness of neurotherapy for a 68-year-old male schizophrenic patient whose psychotic symptoms displayed qualitative and quantitative changes after a closed-head injury. It was hypothesized that there would be good response to relative beta training applied to regulate the dynamics of brain function.*

**Case description:** *The patient was diagnosed with schizophrenia in the early 1960s and frequently thereafter hospitalized. Visual hallucinations were the dominant symptom, and art therapy provided some relief, which led to a successful artistic career. In 1989, while actively hallucinating, he suffered a mild TBI in a pedestrian accident, and in consequences, he presented with perseveration, hemispatial neglect, and disturbances of working memory. The patient took part in 20 sessions of relative beta training. Standardized neuropsychological testing and Event Related Potentials (ERPs) before and after the completion of the program were used. As hypothesized, there was marked improvement of neurophysiological, neuropsychological, and psychiatric symptoms, as well as executive dysfunction and behavioral disorders. He also began to paint in a completely different style.*

**Conclusions:** *The pathomechanisms of schizophrenia and neurobehavioral disturbances resulting from organic brain damage are not unrelated. Microgenetic theory can provide a basis for explaining the course of symptoms in this and similar cases. Relative beta training produced behavioral changes and small physiological changes. ERPs can be used to assess functional brain changes induced by neurotherapeutic programs.*