Early Auditory Deviance Detection and Functional Outcome in Patients with Schizophrenia

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Introduction. The Mismatch Negativity (MMN) is an event-related potential (ERP) sensitive to early auditory deviance detection and has been shown to be reduced in patients with schizophrenia. Moreover, MMN amplitude reduction to duration deviant tones was found to be related to functional outcomes particularly, to social cognition and real-life functioning.

Objectives. In the context of a multicentre study of the Italian Network for Research on Psychoses, our study focused on the investigation of early auditory discrimination components in relation to functioning in real-life in patients with schizophrenia.

Methods. ERPs were recorded in 64 chronic, stabilized patients with schizophrenia during the presentation of standard, duration deviants and frequency deviants tones while watching a cartoon. The Specific Level of Functioning (SLOF) scale was used to measure real-life functioning. Psychopathology, neurocognition and social cognition were measured by state of art instruments. Regression analyses were carried out using SLOF domains as dependent variables and MMN, psychopathology, neurocognition, extrapyramidal symptoms and social cognition as independent predictors.

Results. Latency of MMN entered the regression equation only for the SLOF domain of common activities explaining less variance than social cognition and positive symptoms.

Conclusion. In stabilized patients with schizophrenia pre-attentive deficits, as indexed by MMN and P3a amplitude reduction, do not show any association with psychopathology or functioning. Latency of MMN was an independent predictor of some aspects of functioning with a smaller effect than social cognition and psychopathology domains.