Training of Affect Recognition in Schizophrenia Patients with Violent Offences: Treatment Effects and Electrophysiological Correlates

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Introduction

There is a need for specific treatment approaches for the subgroup of schizophrenia violent offenders. Deficits in affect recognition were shown to be more severe in this group compared to non-violent schizophrenia patients.

Objective

A standardized training of affect recognition (TAR) has been proven effective in non-forensic schizophrenia patients with regard to social-cognitive function. It has not yet been evaluated in the subgroup of forensic schizophrenia patients with violent offences.

Aims

To examine feasibility and behavioral treatment effects of TAR in forensic schizophrenia patients. To study electrophysiological correlates of treatment.

Methods

19 male schizophrenia patients, forensically detained because of violent offences, received weekly sessions of TAR over 2 months. Performance of affect recognition was tested using a standardized emotional picture set before, immediately and two months after treatment. During testing qEEGs were registered for event related potentials (ERPs) and LORETA analysis.

Results

Study participants had a low drop-out rate and a marked improvement in affect recognition immediately and two months after treatment (Cohen's d = 1,88). Loreta analysis revealed reduced activities at P100 and N170 in left tempero-pariatal-occipital brain regions. At P250 activation increases were observable in the right dorsolateral-prefrontal cortex.

Conclusion

In schizophrenia violent offenders brain activity correlates of improved affect recognition after treatment may indicate an improved efficiency in structural decoding of faces and a more reflective mode of affect evaluation. This could lead to a higher degree of deliberation and behavioral control when responding to emotional facial stimuli.