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Thema der Dissertation: Kognitive Defizite und präfrontale Dysfunktion bei Patienten mit Major Depression- eine kombinierte neuropsychologische und fMRI Studie

Abstract

Several neuropsychological studies have shown cognitive deficits in patients with Major Depression. It is difficult to estimate these impairments though, since patients usually either receive antidepressant or other psychotropic medication or are only moderately depressed at the time of investigation. This study therefore investigated unmedicated patients with a severe Major Depressive Episode and found clinically relevant impairments particularly in learning and memory as well as in executive functions. Severity of depression apparently has no influence on the extent of cognitive deficits. To investigate the relationship between emotion and cognition we analyzed neuronal activity patterns during emotional processing with a differential cognitive load using fMRI. Positive and negative stimuli had to be either passively viewed or judged according to their valence. Results showed an abnormal reciprocal modulation between medial and lateral prefrontal areas during the different aspects of emotional processing. Emotional judgement was associated with a decreased deactivation in medial prefrontal areas, a decreased activation in the left dorsolateral prefrontal cortex and an increased activation in the right dorsolateral prefrontal cortex. The altered prefrontal activity pattern correlated with the severity of depression and impaired executive functions. The results therefore demonstrate an affected functional interaction between medial and lateral prefrontal areas as well as an impaired balance between left and right dorsolateral prefrontal cortex, which might be associated with predominant negative emotions and cognitive deficits. The study provides new findings regarding the cognitive impairments of severely depressed patients and an insight into the neuronal basics of emotional processing.