Emotion processing in Parkinson’s Disease:
Dissociation between early neuronal processing and explicit ratings.


ABSTRACT

Objective: Patients suffering from Parkinson’s disease (PD) have a diminished ability to discriminate facial expressions of emotion. We investigated early emotion discrimination deficits in PD by means of event-related potentials (ERPs).

Method: 702 emotional pictures were presented to 14 PD patients and 14 healthy controls in a rapid serial visual presentation paradigm (3 frames per second) while EEG was recorded. In addition, valence and arousal ratings were obtained for a representative subsample of 54 pictures.

Results: PD patients rated pictures of highly arousing content as less exciting than did healthy controls. Pictures of high compared to low emotional arousal were associated with a pronounced relative negative shift in the ERP waveform over parietal and occipital sites developing about 220 ms after picture onset. This early posterior negativity (EPN) did not differ between PD and control group.

Conclusion: This dissociation of affective ratings and early ERP components supports the view that PD is associated with blunted emotional responses, but there is no evidence for a deteriorated early visual processing of emotional stimuli. Significance: Frequently reported deficits in emotion discrimination are likely not due to deficits in early emotion processing.