Abstract

A total of 50 patients with temporal lobe epilepsy with unilateral resection of the hippocampus and the amygdala were studied: 27 with left lobectomy (LTL group) and 23 with right lobectomy (RTL group); and 28 healthy control participants (HC group). The task consisted of identifying the dissimilar photograph from a group of photographs of the same face. The difference could correspond to the identity of the model or the facial expression (happiness, anger, sadness and fear). The results showed that when the difference in the photograph resided in the identity of the model, the RTL group made more mistakes than the HC group. When the facial expression was the distinguishing feature, mean response latency was longer in the LTL group than in the HC group. Comparison of the emotions revealed that the greatest differences were obtained with the fear expression, in all three participant groups. The dissociation of neural circuits responsible for processing facial expressions is discussed and, especially, the role of the left amygdala to discriminate between facial expressions.