Abstract
Patients with temporal lobe epilepsy due to hippocampal sclerosis (TLE/HS) have a distinct neuropsychological profile, but there is still debate on whether executive dysfunction is part of this profile and also whether temporal lobe surgery can modify this dysfunction. Objective: To study the presence and reversibility of executive dysfunction in patients with unilateral TLE/HS. Methods: Twenty-five patients with refractory seizures due to TLE/HS underwent presurgical evaluation which included the application of the Wisconsin Card Sorting Test (WCST). Nineteen were re-evaluated in follow up, at least 6 months after selective amygdalo-hippocampectomy (SAH). Twenty-two control subjects matched for age and education also performed the WCST. Results: Sixteen of the 25 patients (64%) completed fewer than four categories in the WCST whereas only 4 of the 22 controls (18%) did not complete at least four categories (p<0.005). In addition, the performance of the patients involved significantly more perseverative responses and errors compared to controls. The patient group demonstrated significant post-operative improvement in many measures of the WCST following SAH. Conclusions: These findings support the presence of executive dysfunction in patients with TLE/HS and suggest that such dysfunction can be partially reversed by selective resection of epileptogenic mesial temporal structures.

Keywords
Temporal lobe epilepsy, hippocampal sclerosis, executive dysfunction, Wisconsin card sorting test, epilepsy surgery.