A neuropsychological study of patients with temporal lobe epilepsy and chronic interictal psychosis

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PURPOSE
To characterize the pattern of cognitive deficits in patients with temporal lobe epilepsy (TLE) and interictal (schizophrenia-like) psychosis and to examine the relationship between neuropsychological deficits and Magnetization transfer imaging.

METHODS
Twenty patients with TLE and interictal psychosis were compared to 20 non-psychotic TLE patients. Patients were matched with respect to premorbid IQ, age and conventional MRI findings. A battery of neuropsychological tests was administered. The neuropsychological tests which showed significant group differences were used for correlational analysis with magnetization transfer ratio (MTR) which provides a quantitative measure of macromolecular structural integrity.

RESULTS
Patients with interictal psychosis were significantly more impaired on executive and semantic memory tasks than the non-psychotic TLE group. Vocabulary test scores correlated significantly with MTR reduction in the left fusiform gyrus in the psychotic but not the non-psychotic group.

DISCUSSION
In this study, patients with TLE and interictal psychosis were more cognitively impaired than non-psychotic TLE patients. Our findings suggest that the cognitive deterioration in these patients may occur as the illness progresses and the causes for this are probably multifactorial. Our study also provides further evidence that MTR may be useful in investigating structural correlates of cognitive impairment.