

ABSTRACT

The present study aimed at comparing the cognitive functions of patients with and without temporal lobe lesions after radiotherapy for nasopharyngeal carcinoma. Temporal lobe lesions are observed in about 1-3% of patients after radiotherapy for nasopharyngeal carcinoma. While some studies report that patients demonstrated cognitive deficits after radiotherapy, little is known about whether these deficits are related to radiation or the lesions. A comprehensive neuropsychological battery was administered to 31 patients with finger-like edema or cysts as shown by magnetic resonance imaging, 22 patients without edema or cysts and 31 age-and-education-matched normal controls. Patients with temporal lobe necrosis did not differ in their performance on general intelligence, attention, visual abilities and perseverative tendency from normal controls. However, significant difference was observed on their performance on tests assessing memory, language, motor speed, planning, cognitive flexibility and abstract thinking. The overall performance of patients without lesions after radiotherapy was similar to that of normal controls. Therefore, the observed deficits on memory, language, motor ability and executive functions were more likely related to temporal lobe lesions rather than radiation used for treatment.