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C0150 - OPTIC RADIATION MAPPING IN EPILEPSY SURGERY

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Resumen

Objectives: Anterior temporal lobe resection (ATLR) is a well-established and effective treatment in temporal lobe epilepsy (TLE). Nevertheless, ATLR is often complicated (4-50%) by superior quadrant visual field deficits (VFDs). In this study, we focus on comparison of the size of ATLR, the postoperative VFD, and the seizure outcome, and evaluate the correlation between distance of Meyer's loop of optic radiations with the margin of resection and postoperative VFD, using DTI tractography.

Methods: We studied 22 patients with medically refractory temporal lobe epilepsy undergoing ATLR between June 2008 and December 2016. Of the 22 patients, 6 had left- and 16 right- sided resections. Preoperative and postoperative examination of visual fields was assessed in all patients. All patients were divided into two groups. Group I (n = 12) were surgically treated without optic radiation mapping, and Group II (n = 10) with the guidance of optic radiation mapping. Optic radiation mapping include DTI tractography and intraoperative visual evoked potentials (iVEPs).

Results: The size of the ATLR was 4.59 ± 1.44 cm (3.7-6 cm), and 3.74 ± 0.65 cm (3.2-4.8 cm) individually in Groups I and II, respectively. The size of the ATLR was significantly smaller in Group II ($p = 0.0023$). Five patients (25%) in Group I suffered VFDs at 3 months, whereas only one patient (10.0%) in Group II ($p = 0.0001$). Distance from the margin to resection to the initial portion of the Meyer's loop was correlated with a VFDs, with a safe margin of 11.1 mm, The 6-month follow-up survey showed a good outcome in 93.7% patients in Group I (Engel class I-II), and 90.0% in Group II.

Conclusions: Optic radiation mapping can reduce the risk of visual deficits in anterior temporal lobe resection.