

## BRAIN TUMORS

## Surgery provides long-term seizure control

A substantial proportion of temporal lobe epilepsy (TLE) cases are attributable to low-grade brain tumors. Early surgical intervention is recommended for tumor-related TLE, and surgery seems to be associated with a favorable outcome in a high percentage of cases. However, data on the long-term prognosis of surgery for tumor-related TLE are limited. A study conducted in the Republic of Korea has demonstrated that surgical treatment for tumor-related TLE provides long-term seizure relief that is associated with tumor control.

The temporal lobe is the region of the brain that is most vulnerable

to epileptogenesis and, perhaps as a result, TLE is a common form of epilepsy. Unfortunately, this type of epilepsy responds poorly to current drug treatments, and tumor-related TLE is especially difficult to treat with antiepileptic drugs. Consequently, surgery is usually recommended as a treatment option for this condition, and is reported to have a high success rate. The optimal extent of tumor removal for treatment of tumor-related TLE is unknown, however, and few studies reporting long-term control of seizures by tumor surgery have been published.

To establish the long-term outcome for tumor surgery for tumor-associated TLE, Ji Hoon Phi and colleagues from Seoul National University College of Medicine (Seoul, Republic of Korea) performed a retrospective review of 87 patients with tumor-related TLE. The researchers discovered that actuarial seizure control rates after 1 year, 2 years and 5 years of follow-up were 92%, 86% and 79%, respectively. A similar trend was observed with regard to actuarial tumor control rates. 1 year postsurgery, the actuarial tumor control rate was 99%, decreasing to 90% 5 years

postsurgery. Seizure control was thus shown to be strongly associated with tumor control. By contrast, poor seizure control after surgery was associated with incomplete tumor removal and a long duration of epilepsy (>10 years) before surgery; this latter finding is consistent with previous studies. Furthermore, the researchers demonstrated that surgery at a younger age was more likely to enable discontinuation of antiepileptic drugs than was surgery in older individuals.

“A lesion-directed surgical strategy with maximal tumor resection can be a salient treatment for tumor-related TLE” comments Chun Kee Chung, the lead author of the study. However, “optimal treatment of low-grade brain tumors is not yet known” he goes on to explain. Further investigation of tumor heterogeneity and the mechanisms by which tumors cause TLE might aid the development of novel therapies for tumor-associated TLE.

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