

# Temporal lobe low-grade glioma

Low-grade gliomas (LGGs) are generally located in [temporal lobe](#) and cause [medically intractable seizure](#) so that surgical treatment becomes inevitable.

A study provided evidence that iMRI was a safe and useful tool in temporal lobe LGG surgery. Optimal extent of resection contributed to favorable seizure outcome in a series with low morbidity rate, which led to a high return-to-work rate <sup>1)</sup>.

Mesially located [low-grade glioma](#) is the most frequently observed mass lesions in children with temporal tumor-related epilepsy in the series of Cataltepe et al. Resection of the tumor with or without [amygdalohippocampectomy](#) provides a high rate of seizure-free outcome. [Temporal lobe](#) tumors should be managed based on the subgroups defined by their anatomical locations. If the tumor is located in or in proximity to eloquent cortex, we recommend functional magnetic resonance imaging and invasive monitoring techniques to map the eloquent cortex and epileptogenic zone, thereby tailoring the resection <sup>2)</sup>.

## Case series

Fifty-three patients including children and adults underwent surgery on temporal lobe LGGs and 35 patients were reached to report [seizure](#) and [antiepileptic drug](#) (AED) [outcomes](#). On the non-dominant temporal lobe, [anterior temporal lobectomy](#) with [hippocampectomy](#) whether mesial structure are involved or not is the appropriate approach. On the dominant temporal lobe mesial structures should be respected. However, total resection of the tumor should be the goal of surgery. Mean follow-up period was 8.3 years and favorable seizure outcome was found to be 91.4%. Surgery decreased AED usage and mean number of AED significantly decreased. Children also benefited from surgery as adults. Surgical treatment of tumor-related epilepsy from temporal lobe controls seizures, and total removal should be the main goal of surgery as neuropsychological testing permit <sup>3)</sup>.

<sup>1)</sup>

Bai SC, Xu BN, Wei SH, Geng JF, Wu DD, Yu XG, Chen XL. Intraoperative high-field magnetic resonance imaging combined with functional neuronavigation in resection of low-grade temporal lobe tumors. *World J Surg Oncol*. 2015 Sep 26;13:286. doi: 10.1186/s12957-015-0690-7. PubMed PMID: 26410079; PubMed Central PMCID: PMC4583990.

<sup>2)</sup>

Cataltepe O, Turanli G, Yalnizoglu D, Topçu M, Akalan N. Surgical management of temporal lobe tumor-related epilepsy in children. *J Neurosurg*. 2005 Apr;102(3 Suppl):280-7. PubMed PMID: 15881751.

<sup>3)</sup>

Kemerdere R, Yuksel O, Kacira T, Yeni N, Ozkara C, Tanriverdi T, Uzan M, Ozyurt E. Low-grade temporal gliomas: Surgical strategy and long-term seizure outcome. *Clin Neurol Neurosurg*. 2014 Sep 30;126C:196-200. doi: 10.1016/j.clineuro.2014.09.007. [Epub ahead of print] PubMed PMID: 25285877.

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Last update: **2024/06/07 02:50**

