

[Epileptic Disord.](#) 2025 Apr 4. doi: 10.1002/epd2.70019. Online ahead of print.

Early postoperative seizures in patients with adult-type diffuse gliomas: Incidence, risk factors, and clinical outcomes

Jiajia Liu ¹, Gan You ², Shengyu Fang ², Shimeng Weng ¹, Zhong Zhang ², Xing Fan ¹, Hui Qiao ¹

Affiliations

PMID: 40184162 DOI: [10.1002/epd2.70019](https://doi.org/10.1002/epd2.70019)

Abstract

Objective: The current study aimed to clarify the representation of early postoperative seizures (EPSs) in different glioma subtypes under the 2021 WHO classification, explore the risk factors for EPSs in glioma patients, and investigate the clinical impact of EPSs on seizure and survival outcomes.

Methods: Data from 78 patients were analyzed. The differences in clinical-pathological features between patients with EPSs and those without were compared using appropriate statistical methods. Multivariate binary logistic regression analysis was subsequently conducted to explore potential risk factors for EPSs. Finally, the Kaplan-Meier method was applied to analyze the correlation of EPSs with progression-free survival and overall survival.

Results: Early postoperative seizures occurred in 17 patients (21.8%). The incidence of EPSs was highest in patients with oligodendroglioma, IDH-mutant, and 1p/19q-codeleted (25.7%), followed by astrocytoma, IDH-mutant (20.8%), and glioblastoma, IDH-wildtype (12.5%). An extent of resection (EOR) of less than 92.24% was identified as the only independent predictor for EPSs (Odds ratio 8.490, 95% confidence interval 1.873-38.488, $p = .006$) through multivariate regression analysis. In addition, EPSs showed no significant impact on late postoperative seizure occurrence and survival outcome.

Significance: In glioma patients, EPSs are considered neurological disorders induced by surgery-related factors rather than a tumor-related mechanism. EPSs are more prone to occur in patients with an EOR of less than 92.24%, which can contribute to improving individualized glioma management.

Keywords: adult-type diffuse glioma; clinical outcome; incidence; postoperative seizure; risk factor.

© 2025 International League Against Epilepsy.

[PubMed Disclaimer](#)