

# Levetiracetam for brain tumor-related epilepsy treatment

Management of seizures in [brain tumor-related epilepsy treatment](#) is complex and with currently available evidence [levetiracetam](#) seems the preferred choice. Comparative efficacy RCTs in BTRE are warranted <sup>1)</sup>.

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Levetiracetam is efficacious and safe in patients with epilepsy due to [glioma](#) <sup>2)</sup>. Emerging studies have also demonstrated that levetiracetam can increase the sensitivity of [glioblastoma](#) to the [chemotherapy](#) drug [temozolomide](#). Levetiracetam is a safe alternative to conventional [antiepileptic drugs](#) and an emerging tool for [brain tumor](#) patients combating [seizures](#) <sup>3)</sup>.

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Prophylactic [anticonvulsant](#) with [levetiracetam](#) is associated with an increased frequency of [neuropsychiatric side effects](#). Accurate epileptological evaluations in patients with [brain tumors](#) are mandatory to select who would benefit most from [antiepileptic drug](#) <sup>4)</sup>.

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LEV has no detrimental effect on cognitive functioning in the perioperative phase in seizure-naive brain tumor patients <sup>5)</sup>

<sup>1)</sup>

van der Meer PB, Taphoorn MJB, Koekkoek JAF. Management of epilepsy in brain tumor patients. Curr Opin Oncol. 2022 Jul 16. doi: 10.1097/CCO.0000000000000876. Epub ahead of print. PMID: 35838207.

<sup>2)</sup>

Rosati A, Buttolo L, Stefini R, Todeschini A, Cenzato M, Padovani A. Efficacy and safety of levetiracetam in patients with glioma: a clinical prospective study. Arch Neurol. 2010 Mar;67(3):343-6. doi: 10.1001/archneurol.2009.335. PMID: 20212232.

<sup>3)</sup>

Fonkem E, Bricker P, Mungall D, Aceves J, Ebwe E, Tang W, Kirmani B. The role of levetiracetam in treatment of seizures in brain tumor patients. Front Neurol. 2013 Oct 7;4:153. doi: 10.3389/fneur.2013.00153. PMID: 24109474; PMCID: PMC3791389.

<sup>4)</sup>

Dono F, Consoli S, Evangelista G, Ricci A, Russo M, Carrarini C, Di Iorio A, Bonanni L, Anzellotti F, Onofrj M, Sensi SL. Levetiracetam Prophylaxis Therapy for Brain Tumor-Related Epilepsy (BTRE) Is Associated With a Higher Psychiatric Burden. Front Neurol. 2022 Jan 11;12:806839. doi: 10.3389/fneur.2021.806839. PMID: 35087476; PMCID: PMC8787304.

<sup>5)</sup>

Konrath E, Marhold F, Kindler W, Scheichel F, Popadic B, Blauensteiner K, Calabek B, Freydl E, Weber M, Ristl R, Hainz K, Sherif C, Oberndorfer S. Perioperative levetiracetam for seizure prophylaxis in seizure-naive brain tumor patients with focus on neurocognitive functioning. BMC Neurol. 2022 Jul 8;22(1):250. doi: 10.1186/s12883-022-02762-7. PMID: 35804291; PMCID: PMC9264633.

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Last update: **2024/06/07 02:59**

