# Levetiracetam Monotherapy For The Treatment Of Febrile and Febrile Induced Seizures

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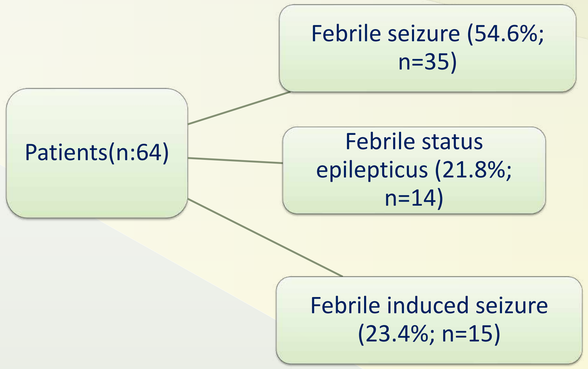
## INTRODUCTION and OBJECTIVE

Levetiracetam (LEV) is a second-generation antiepileptic drug with about 100% bioavailability, linear pharmacokinetics, rapid transition to steady state, low protein binding, no hepatic metabolism, and no clinically meaningful drug–drug interactions (1). Levetiracetam monotherapy in children has gradually increased over the last decade due to its efficacy, good tolerability, and favorable pharmacokinetic features (2). We aimed to evaluate the efficacy, tolerability and safety of levetiracetam monotherapy in the management of different febrile seizure types and febrile induced seizures in children.

## METHODS

The data of cases who had febrile and febrile induced seizures and given levetiracetam therapy between 2013-2019 in the pediatric neurology department were retrospectively analyzed. Patients were evaluated in terms of their age, gender, age of febrile seizure, age of levetiracetam therapy, levetiracetam treatment duration and dosage, febrile seizure family history, seizure type, electroencephalography, adverse effect and response to levetiracetam.




## RESULTS

A total of 64 patients, 45 male and 19 female, were included in the study. Of our patients, 54.6% (n=35) had febrile seizure, 23.4% (n=15) had febrile induced seizure, 21.8% (n=14) had febrile status epilepticus. The reasons for giving treatment in our patients with febrile seizures were due to complex febrile seizures (n=26, 74.2%) and recurrent febrile seizures (n=9; 25.8%). The median age of levetiracetam therapy was 18.5 months (3-116) and the median duration use was 30 months (5-84). Of the 64 patients, 51 (79.6%) patients were seizure free. Seventy-four percent of the patients (26 of 35) with febrile seizure, 85.7% (12 of 14) febrile status epilepticus and 86.6% (13 of 15) febrile induced seizure were seizure free. Levetiracetam median dosage was 20 mg/ kg/ per day (10-45). No hematological or biochemical nor behavioral adverse side effects except irritability in one patient were observed.

## CONCLUSIONS

Our study showed that levetiracetam was an effective, well tolerated and safe agent for the treatment of febrile induced seizures, febrile status epilepticus and recurrent febrile seizures.

**Keywords:** febrile seizure, levetiracetam, febrile induced seizure, febrile status epilepticus

## REFERENCES

1) Patsalos PN. Clinical pharmacokinetics of levetiracetam. Clin Pharmacokinet. 2004;43(11):707-24. doi: 10.2165/00003088-200443110-00002. PMID: 15301575.
2) Arican P, Gencpinar P, Cavusoglu D, Olgac Dundar N. Levetiracetam monotherapy for the treatment of infants with epilepsy. Seizure. 2018 Mar;56:73-77. doi: 10.1016/j.seizure.2018.02.006. Epub 2018 Feb 12. PMID: 29453114.
3) Sekimoto H, Rikitake Y. Efficacy and safety of levetiracetam in Japanese epilepsy patients: A retrospective cohort study. J Clin Pharm Ther. 2019 Dec;44(6):912-923. doi: 10.1111/jcpt.13015. Epub 2019 Aug 10. PMID: 31400284.
4) Yıldırım M, Bektaş Ö, Akıncı Göktaş Ö, Yüksel MF, Şahin S, Tıraş Teber S. Levetiracetam monotherapy in children with epilepsy: Experience from a tertiary pediatric neurology center. Epilepsy Behav. 2021 Mar;116:107745. doi: 10.1016/j.yebeh.2020.107745. Epub 2021 Jan 25. PMID: 33508749.

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