

# A Meta-analysis on the Efficacy and Tolerability of Intravenous Levetiracetam for Convulsive Status Epilepticus in Pediatric Patients



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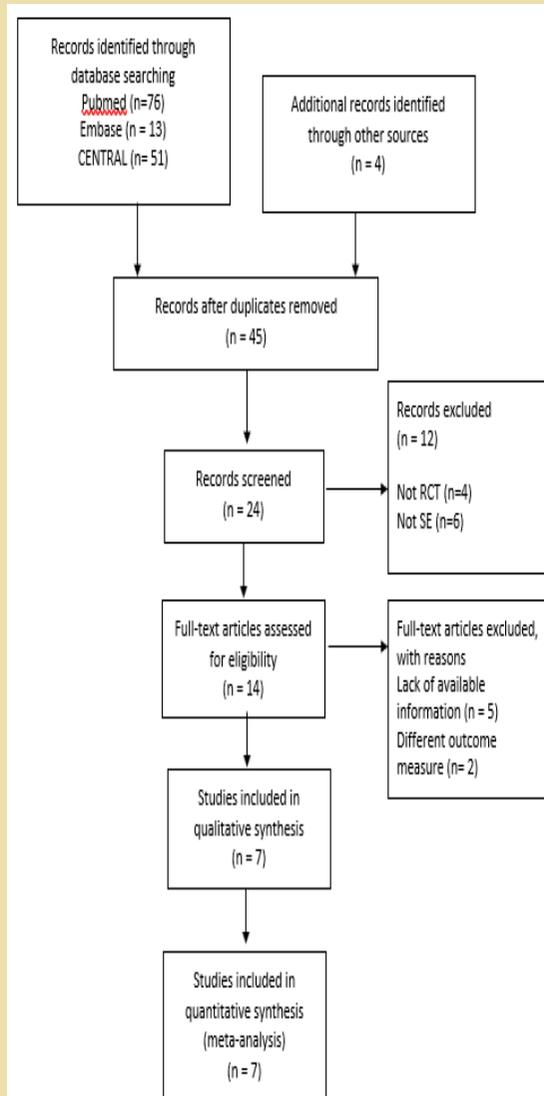
## INTRODUCTION

Status epilepticus (SE) is one of the most common neurologic emergencies. Rapid cessation is the cornerstone of management due to evidences that prolonged events increase the risk for neuronal injury, subsequent epilepsy, and unfavorable behavioral and cognitive outcomes. This need should be weighed with the adverse events at times associated with administration of treatment. New data offered by recent trials may help strengthen the consideration of levetiracetam in the management of pediatric convulsive status epilepticus.

## OBJECTIVES

To compare the efficacy and safety of levetiracetam vs other antiepileptic drugs for the treatment of pediatric convulsive status epilepticus in terms of SE cessation, seizure recurrence within 24 hours, and emergence of adverse events.

## METHODS



## RESULTS

- SE uncontrolled within 5 minutes: LEV (75/178), other AED (63/173) [RR=1.15 (95%CI:0.32-1.40), P=0.28, I<sup>2</sup>=0%]
- SE uncontrolled within 30 minutes: LEV (154/755), other AED (179/732) [RR=0.8 (95%CI:0.55-1.15), P=0.23, I<sup>2</sup> = 69%]
- Seizure recurrence within 24 hours: LEV (35/402), other AED (56/382) [RR=0.67 (95%CI:0.32-1.4), P=0.29, I<sup>2</sup>=59%]
- Adverse Events (Overall): LEV (107/773), other AED (159/750) [RR=0.55 (95%CI:0.26-1.16), P=0.12, I<sup>2</sup>=85%]
- Respiratory AE: LEV (49/527), other AED (51/527), [RR=0.64 (95%CI:0.18-2.30), P=0.50, I<sup>2</sup>=39%]
- Cardiac AE: LEV (24/627), other AED (46/627), [RR=0.50 (95%CI:0.26-0.96), P=0.04, I<sup>2</sup>=27%]

- Neurologic AE: LEV (24/282), other AED (39/280), [RR=0.87 (95%CI:0.16-4.73), P=0.88, I<sup>2</sup>=84%]
- Dermatologic Adverse Events: LEV (6/327), other AED (10/327), [RR=0.63 (95%CI:0.24-1.68), P=0.36, I<sup>2</sup>=0%]

## CONCLUSION & RECOMMENDATIONS

Although the study has inconclusive evidence to promote the use of levetiracetam over other AED, the efficacy and safety profile manifested suggests that levetiracetam may be considered in the management of pediatric convulsive status epilepticus.

There is a need for randomized clinical trials with larger sample sizes and local studies in assessing the efficacy and safety of levetiracetam in pediatric convulsive status epilepticus in children

## KEYWORDS

Status epilepticus, Levetiracetam, Children, Pediatrics, Meta-analysis