

INPLASY PROTOCOL

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Review Stage at time of this submission: Formal screening of search results against eligibility criteria.

Conflicts of interest:
None declared.

INTRODUCTION

Review question / Objective: P: Chinese children with BECT, I: VPA, LEV, OXC C: VPA treatment before and after, LEV treatment before and after, OXC treatment before and after, after the treatment of VPA and LEV, after the treatment of VPA and

Meta-analysis of the effects of sodium valproate (VPA), levetiracetam (LEV) and oxazepine (OXC) on cognitive level of Chinese benign epilepsy children with central temporal spike (BECT)

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Review question / Objective: P: Chinese children with BECT, I: VPA, LEV, OXC C: VPA treatment before and after, LEV treatment before and after, OXC treatment before and after, after the treatment of VPA and LEV, after the treatment of VPA and OXC, after the treatment of OXC and LEV; O: Chinese Wechsler Intelligence Scale Verbal IQ (VIQ), performance IQ (PIQ) and full IQ (FIQ), S: case-control study or cohort study.
Condition being studied: BECT is the most common age-dependent idiopathic focal epilepsy syndrome in children, accounting for about 15% to 25% of children's epilepsy. The onset age ranges from 3 to 14 years old, with a high incidence of 9 to 10 years old. The common treatment drugs are VPA, LEV and OXC. In recent years, more and more children with BECT atypical lesions have been diagnosed. There is no consensus on whether their cognitive impairment is caused by epilepsy itself or by antiepileptic drugs.

INPLASY registration number: This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 15 June 2022 and was last updated on 15 June 2022 (registration number INPLASY202260066).

OXC, after the treatment of OXC and LEV; O: Chinese Wechsler Intelligence Scale Verbal IQ (VIQ), performance IQ (PIQ) and full IQ (FIQ), S: case-control study or cohort study.

Condition being studied: BECT is the most common age-dependent idiopathic focal

epilepsy syndrome in children, accounting for about 15% to 25% of children's epilepsy. The onset age ranges from 3 to 14 years old, with a high incidence of 9 to 10 years old. The common treatment drugs are VPA, LEV and OXC. In recent years, more and more children with BECT atypical lesions have been diagnosed. There is no consensus on whether their cognitive impairment is caused by epilepsy itself or by antiepileptic drugs.

METHODS

Participant or population: Chinese children diagnosed with BECT.

Intervention: Treatment with sodium valproate (VPA) or levetiracetam (LEV) or oxazepine (OXC).

Comparator: Before and after treatment with valproate, Before and after treatment with levetiracetam, Before and after treatment with oxcarbazepine, after treatment with levetiracetam and valproate, after treatment with oxcarbazepine and valproate, after treatment with levetiracetam and oxcarbazepine.

Study designs to be included: Case-control studies or cohort studies.

Eligibility criteria: Additional inclusion criteria: the cognitive level of BECT children was collected before and after treatment with VPA, LEV and OXC, and the treatment duration should be at least 4 weeks. 2. The grouping method of VPA, LEV and OXC should be randomized. Exclusion criteria: 1. The diagnosis is not BECT; 2. BECT with two or more antiepileptic drugs should be excluded; 3. The cognitive assessment method is not WISC-CR.

Information sources: Two different physicians searched Chinese common databases (CNKI, Wanfang, VIP And Chinese Biomedical Literature database) and Pubmed according to keywords, and the research objects were Chinese children with BECT evaluated by WISC-CR. Further

data tracking was carried out according to the references of the literature searched.

Main outcome(s): 1. Comparison of cognitive level of BECT children before and after VPA treatment; 2. Comparison of cognitive level of BECT children before and after LEV treatment; 3. Comparison of the cognitive level of BECT children before and after OXC treatment; 4. Reticular meta-analysis of cognitive level of BECT children after treatment with VPA, LEV and OXC (Treatment time at least 4 weeks).

Quality assessment / Risk of bias analysis: Using The Newcastle-Ottawa Scale to evaluate the Literature quality, and bias was analyzed by meta-regression.

Strategy of data synthesis: Stata15 software was used for data analysis.

Subgroup analysis: No.

Sensitivity analysis: 1. Controversial studies by two physicians are evaluated by a third physician. 2. Low-quality studies are excluded 3. Appropriate statistical methods or models will be used to analyze data.

Language: Chinese and English.

Country(ies) involved: China.

Keywords: Benign epilepsy of childhood with centrottemporal spikes; Benign Rolandic epilepsy; cognitive; Valproic acid sodium; VPA; Levetiracetam; LEV; oxcarbazepine; OXC.

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