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EDITORIAL COMMENTARY

Vitamin D Deficiency in Children on Long-Term Antiseizure Medications: Where Do We Stand?

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In this issue of the Journal, Vijayakumar and colleagues tried to answer an essential question of whether long-term use of antiseizure medications in children with epilepsy affects vitamin D levels [1]? The question arises because antiseizure medications aim to improve quality of life by controlling seizures. However, there is concern that long-term use of antiseizure medications can impact vitamin D metabolism and may lead to poor bone health. Children with epilepsy are often at risk of injuries due to seizures and comorbidities. Poor underlying bone health might result in fracture and adversely affect the quality of life [2].

The present study is remarkable in highlighting that vitamin D deficiency is common in children with epilepsy, the majority of whom were on valproate or levetiracetam long-term monotherapy, and especially with comorbid cerebral palsy [1]. Having a control group of 295 children, control over the influence of season, and large sample size ($n=269$) of children with epilepsy were the strengths of the study. The limitations of the study were the lack of a causality relationship, lack of bone-density assessment, and inclusion of a large number of children with cerebral palsy in the study cohort. Overall, the present study suggests the need of pharmacological vitamin D and calcium supplementation in children with epilepsy, especially with comorbidity of cerebral palsy.

Childhood epilepsy is a group of heterogeneous disorders and includes various age-related electroclinical syndromes from infancy to adolescence age, varying from self-limited epilepsies to drug-resistant epilepsies [3]. The therapeutic choice is also guided by underlying epilepsy diagnosis, e.g., a diagnosis of infantile spasms requires peculiar hormonal therapy. Perinatal insults are an important etiological cause of drug-resistant epilepsies and are associated with comorbidity of cerebral palsy [4]. Etiology and comorbidities are important determinants of long-term outcomes. Furthermore, one must carefully differentiate treatment-emergent adverse effects of antiseizure medications with comorbidities. Now, various new antiseizure medications are increasingly available to treat childhood epilepsies, e.g., ethosuximide, brivaracetam, eslicarbazepine, vigabatrin, etc. [5].

Future studies should be targeted towards assessing the causal effect of new-generation antiseizure medications on bone health. Studies should be targeted towards specific electroclinical syndrome to have a more homogenous study population and wider external applicability.

Declarations

Conflict of Interest None.

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