

# Use of Phenytoin in Vertigo/Dizziness

## Vertigoda Fenitoin Kullanımı

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### ABSTRACT

Phenytoin is an antiepileptic agent that has been in clinical use for approximately 80 years, particularly due to its antiepileptic and antineuralgic activity and antiarrhythmic effects. Phenytoin has also become increasingly widely used in recent years in various clinical applications, including wound healing, migraine, dizziness, myocardial infarction, bipolar disorder, various types of ulcer, and burns. Vertigo/dizziness is frequently seen in children. Numerous causes play a role in the etiology of vertigo/dizziness. Antiepileptic drugs (particularly carbamazepine and diphenylhydantoin) are also known to give rise to vertigo/dizziness. There are no specific studies concerning the treatment of vertigo/dizziness in childhood, and treatment is reported to involve treatment of the underlying etiology.

**Key Words:** Phenytoin, Treatment, Vertigo

### ÖZ

Fenitoin, özellikle antiepileptik, antinöraljik aktivitesi ve antiaritmik etkileri nedeniyle yaklaşık 80 yıldır klinik kullanımda olan bir antiepileptik ajandır. Fenitoin ayrıca son yıllarda yara iyileşmesi, migren, baş dönmesi, miyokard enfarktüsü, bipolar bozukluk, ülser türleri ve yanıklar dahil olmak üzere çeşitli klinik uygulamalarda giderek daha yaygın bir şekilde kullanılmaktadır. Çocuklarda baş dönmesi sıklıkla görülür. Baş dönmesi etyolojisinde çok sayıda neden rol oynamaktadır. Antiepileptik ilaçların da (özellikle karbamazepin ve difenilhidantoin) baş dönmesine neden olduğu bilinmektedir. Çocukluk çağında baş dönmesi tedavisi ile ilgili spesifik bir çalışma yoktur ve tedavinin altta yatan etyolojinin tedavisini içerdiği bildirilmektedir.

**Anahtar Kelimeler:** Fenitoin, Tedavi, Vertigo

### INTRODUCTION

We have read the article by Dilber et al. (1) titled, "Neurological Manifestations of Pediatric Acute COVID Infections: A Single Center Experience?" with interest. The second most common non-specific symptom reported in patients followed-up with Covid-19 was dizziness, observed in 14.3% of patients, 0.7% of whom were hospitalized. Diphenylhydantoin has been used in the treatment of patients hospitalized with dizziness, and a good clinical response has been reported. The use of diphenylhydantoin with this indication attracted our attention. However, it was stated that 25% of Covid-19 patients had

central nervous system findings and 2% of them had at least one seizure during the treatment process (2). Firat et al. (3), mentioned drug-drug interactions of clinical importance between anti-Covid-19 treatments (antiviral and immune therapies) and antiepileptic drugs. It has been emphasized that phenytoin reduces lopinavir/ritonavir serum levels by 30%. For this reason, it was emphasized that attention should be paid the dose of antiviral treatment in COVID-19 patients with epilepsy receiving phenytoin (3).

Phenytoin is an antiepileptic agent that has been in clinical use for approximately 80 years, particularly due to its antiepileptic and antineuralgic activity and antiarrhythmic effects (4,5). It is



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widely prescribed because of its low cost and easy availability (6). Phenytoin has also become increasingly widely used in recent years in various clinical applications, including wound healing, migraine, dizziness, myocardial infarction, bipolar disorder, various types of ulcer, and burns (7-9).

Vertigo is frequently seen in children. Numerous causes play a role in the etiology of vertigo/dizziness (including head trauma, central nervous system pathologies, vestibular pathologies, psychogenic factors, migraine, labyrinth/nerve pathologies, congenital, idiopathic, post-infectious, and toxic causes, malnutrition, and vascular, inflammatory, and oculomotor causes). Antiepileptic drugs (particularly carbamazepine and diphenylhydantoin) are also known to give rise to vertigo (10). The difficulty in treating pediatric vertigo may derive from its being a symptom identified late in childhood. There are no specific studies concerning the treatment of vertigo/dizziness in childhood, and treatment is reported to involve treatment of the underlying etiology (11). The treatment of vertigo/dizziness includes acute symptomatic therapy, behavioral therapy, specific therapy, and pharmacotherapy (propranolol, flunarizine, levetiracetam, lamotrigine, magnesium, dimenhydrinate, prednisolone, betahistine, carbamazepine, and acyclovir). We know that the antiepileptic agents levetiracetam, valproic acid, lamotrigine, and topiramate are used in patients with migraine involved in the etiology of vertigo, and that carbamazepine and oxcarbazepine are used in patients with vestibular paroxysm (11).

This article emphasizes the use of phenytoin in the treatment of patients with vertigo/dizziness, and that the symptoms duly resolved. The use of a drug whose side-effects include vertigo/dizziness in the treatment of vertigo/dizziness in patients diagnosed with Covid-19 is therefore a very recent application according to our review of the literature. In addition, the improvement of patients' symptoms is of great importance in terms of this therapeutic option entering into use.

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