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Letter to the Editor

Afebrile seizure in toddlers – Don't forget camphor

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ABSTRACT

In country like India camphor is ubiquitous in every household and is easily available across all grocery stores. Camphor is easily accessible to kids and children and can be missed for sugar cubes. We report two children who had afebrile seizures following camphor ingestion. Both the toddlers had afebrile seizure and presented in postictal state. In the first case the child had vomiting in hospital which had camphoraceous odor. Interrogation in both case revealed consumption of camphor few minutes prior to the seizure. Both the kids improved with supportive care. Camphor fits in community go largely unrecognized and parents don't inform about potential camphor ingestion and these children are subjected to unnecessary evaluation and antiepileptic drug exposure. One should create awareness about camphor induced seizures and potential toxic effects of camphor and it should be kept away from reach of children. Parents should be discouraged from topical application of camphor containing indigenous medications in neonates and toddlers.

1. Introduction

Afebrile seizure in infants and toddlers warrant a thorough investigation that may include electroencephalogram (EEG), brain imaging, and metabolic work-up. Etiology for seizures has therapeutic and prognostic implications. We report a child who had afebrile seizures following camphor ingestion. We suspect that camphor usage in the community is largely unrecognized.

2. Case reports

Case 1: An 11-month-old male child was bought immediately following a generalized seizure. There was no history of fever or trauma. Birth history and developmental milestones were normal. Past and family history was non contributory. The child was drowsy and had no meningeal signs or focal deficits. Soon after presentation, child vomited and vomitus had camphoraceous odor. This intrigued us, on further enquiring parents told they had a religious ceremony at home few hours before in which they had ignited camphor for flame as a ritual. They further emphasized that child had mistakenly consumed two camphor cubes. His metabolic parameters, EEG and computerized tomography head scan were normal. Child was managed conservatively and discharged on third day.

3. Discussion

Camphor is a white crystalline substance with a characteristic, penetrating odor and a pungent, aromatic taste.[1] Camphor was originally obtained by distillation of the bark from the camphor tree, *Cinnamomum camphora*. Today, it is produced synthetically from turpentine oil. It has been used historically as an aphrodisiac, contraceptive, abortifacient, analeptic, lactation suppressant, cardiac and central nervous system stimulant, cold remedy, muscle and joint liniment, and rodent repellant.[2] Camphor is rarely used as a flavoring for dessert dishes, there are recipes on internet and in culinary textbooks which mentions adding pinch of camphor to add to the flavor of dishes.[3,4] Camphor traditionally forms an important part of all religious ceremonies. In any holy rituals camphor flame (called Aarti) is shown to deities. Camphor is active ingredient of many over the counter products like pain relief ointments, sprays, vaporizers; decongestants containing four to 11% camphor.[2]

Camphor intoxication can cause seizures, confusion, irritability, and neuromuscular hyperactivity. Other adverse

effects include tachycardia, urinary retention, albuminuria and elevations of liver enzymes. The toxic dose ranges from 50 to 500 mg/kg bodyweight.[5,6] Topical camphor even may trigger seizure when it is applied in massive quantities especially in infants and toddlers.[7] In extreme cases, even topical application of camphor may lead to hepatotoxicity.[8,9]

The exact mechanism of camphor induced seizures is not known. In fact camphor was first used to induce seizures in human being for treatment of mania.[10] There is no specific antidote for camphor toxicity and treatment is largely supportive. Stomach wash is of no use as it gets rapidly absorbed. Seizures in adults and children can usually be managed with the use of benzodiazepines and/or barbiturates.

In country like India camphor is ubiquitous in every household and is easily available across all grocery stores. One should create awareness about camphor fits and potential toxic effects of camphor. Parents should be discouraged from topical application of camphorated indigenous medications in neonates and toddlers. Its use in edibles should be discouraged. It should be kept away from reach of children since it may be consumed in mistake of sugar. Encountering a toddler with afebrile seizures primary care physician or pediatricians should enquire about any rituals at home, use of camphor in recipes or using camphorated indigenous medications. By the time these children reach a specialist for work-up of these seizures, it may be too late for the parents to recollect and confirm. This will help avoiding unnecessary evaluation of seizure and also aid for definitive management.

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