



Accidental Poisoning of a Child by Dieffenbachia

Bir Çocukta Kazara Difenbahya Zehirlenmesi

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Abstract

Difenbahya evlerde süs amaçlı yetiştirilen tropikal bir bitkidir. Yaprak ya da tohumunun kazara çocuklar tarafından yenmesi acil tedavi gerektirecek ciddi gastrointestinal ve solunum sistemi bulgularına neden olabilir. Sekiz yaşında kız hasta acil servise ani başlayan dilde uyuşma, alt dudakta şişlik ve kızarıklık, konuşmada bozulma ve nefes almada zorluk yakınmaları ile başvurdu. Öyküsünden şikayetleri başlamadan beş dakika önce evde bulunan difenbahya bitkisinin toprağı ile kalemle oynadığı ve bu kalemi ağzına götürdüğü öğrenildi. Antihistaminik ve steroid tedavisi ile semptomlar geriledi. Ailelerin ve çocukların evlerde yaygın olarak kullanılan bu bitkinin yaşamı tehdit edici zehirlenme etkilerinden dolayı eğitilmesi çok önemlidir.

Anahtar Kelimeler: Çocuk, difenbahya, zehirlenme

Öz

Dieffenbachia is a tropical ornamental house plant. Accidental ingestion of the leaf or its seed can cause serious gastrointestinal and respiratory symptoms requiring emergency treatment. An eight-year-old female child was admitted to the emergency department with sudden numbness on her tongue, lower lip swelling and redness, slurred speech and difficulty breathing. Upon further interview, it was revealed that five minutes prior to these symptoms occurred, the patient was playing with the soil of dieffenbachia with a pen and placing this pen in her mouth. Symptoms resolved after treatment with antihistamines and steroids. Training of families and children about toxic effects of Dieffenbachia which is widely used as a potted house plant is very important as chewing the plant results in life-threatening consequences.

Keywords: Child, dieffenbachia, poisoning

Introduction

Dieffenbachia, commonly known as dumb cane, is a tropical ornamental house plant in the Araceae family and the Arum class (Figure 1).¹ Although Dieffenbachia is aesthetically pleasing, it has life-threatening effects. Dieffenbachia causes severe local injuries to the tissues due to the oxalate crystals contained in the plant juice. When skin comes in contact with the plant oil, localized swelling, redness, burning, and pain can develop. If the plant is chewed, life-threatening systemic symptoms, such as respiratory failure, can occur.²

The case is presented to notify parents and children of the dangers of rare plant poisoning. Rare plants, such as

Dieffenbachia, can cause serious systemic, heart, lung, and neurological problems.

Case

An eight-year-old female, having no previously known diseases, was taken to the emergency department with sudden numbness in the tongue, lower lip swelling and redness, slurred speech, and difficulty breathing. Half an hour after arrival, the vital signs of the patient were stable (heart rate: 112 bpm, blood pressure: 100/65 mmHg, respiratory rate: 28/min, oxygen saturation: 96%). All physical examination findings were normal except for swelling and redness of the

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Figure 1. Dieffenbachia- camilla plant

lip and eye, and tongue numbness. The child was breathing with an open mouth and had slurred speech.

According to the mother, the patient was playing with soil from a dieffenbachia plant with a pen, and then she placed this pen in her mouth. This occurred five minutes before the symptoms began. The patient complained of tongue numbness, and given this complaint, plant poisoning was considered. Treatment with steroids and antihistamines (methyl prednisolone 1 mg/kg, pheniramine 1 mg/kg) was administered. Because of the sudden onset of complaints and respiratory distress, chest radiography was conducted to exclude the possibility of a foreign body aspiration. However, the results of this procedure were normal.

The patient was monitored, and her symptoms improved within two hours after treatment. The initial plan was to closely monitor the child in the emergency department for 24 hours to ensure that airway obstruction or dyspnea did not develop due to the toxic effects of *Dieffenbachia*. However, after 24-hours of observation, the child made a full clinical improvement. The patient was discharged after she and her family were informed about plant poisoning.

Discussion

Dieffenbachia is a tropical ornamental houseplant that is imported from the American tropics. The plant has a known toxicity dating back to the late 17th century. Natives living in the Amazon used it as arrow poison, and they would also drop the plant's oil into the mouths of slaves as a form of torture. Although the precise toxicity mechanism is unknown, calcium oxalate crystals (raphides) and protease in the idioblast of the plant are considered to be the causes. The raphides and proteolytic enzymes in leaves cause irritation and inflammation if the leaves are torn by hand or chewed. Clinical findings can occur with ocular, skin, and oral contact. Severe pain, chemosis, blepharospasm, photophobia, lacrimation, corneal abrasions, and keratoconjunctivitis may develop with ocular contact. Dermatitis, burns, or bullous eruption can be seen with dermal contact. After oral intake, pain, edema, an increase in secretions, ulceration, vomiting, diarrhea, and dysphagia may develop.¹ In Turkey, Şişmanlar et al.³ reported a case where a three-year-old child who ingested leaves from the plant developed clinical findings similar to those discussed in our case.³

In another case, an adolescent ate the plant in a suicide attempt. The adolescent subsequently developed severe airway obstruction requiring a tracheotomy due to esophagitis secondary to an aorta-esophageal fistula.⁴ *Dieffenbachia* poisoning cases have also been published in the veterinary literature. One case involved a dog that died from a severe airway obstruction due to glottic edema that manifested after eating the plant.⁵ Another case involved a cat that developed a severe gastric ulcer.⁶

In *Dieffenbachia* poisoning, symptoms often develop within the first five minutes and resolve with minimal supportive treatment. In our case, the symptoms developed within the first few minutes after contact. While cold applications and analgesics are sufficient to treat those with local findings, treatment with antihistamines and steroids is preferred to treat those with systemic findings.

The symptoms and findings in our patient responded well to treatment, and there were no complications during the 24-hour follow-up period. Intubation and tracheostomy may be required in patients with severe respiratory distress. The severity of symptoms may be correlated with the amount of plant intake, as increased plant ingestion may cause airway obstruction and subsequent complications.

Conclusion

Plant poisoning, although rare, should be considered for a diagnosis in children when the symptoms of angioedema and/or sudden onset of airway obstruction are present. *Dieffenbachia* is a common decorative plant in homes, thus,

it is critical to educate families and children about its life-threatening poisonous effects.

Ethics

Informed Consent: Written informed consent was taken from the parents for reporting this case.

Peer-review: Externally and internally peer-reviewed.

Authorship Contributions

Surgical and Medical Practices: E.A.B., Concept: E.A.B., Design: E.A.B., Data Collection or Processing: E.T., Analysis or Interpretation: Ö.B.S., Literature Search: T.Ç., Writing: E.A.B.

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