

Severe airway obstruction after Dieffenbachia ingestion

C Falciola¹, A Celentano¹, M Bissoli¹, M Ferruzzi¹, R Borghini¹, F Sesana¹, A Tomoiaga¹, G Panzavolta¹, ML Colombo², F Davanzo¹

¹Milan Poison Control Centre - Azienda Ospedaliera Niguarda Ca' Granda, Milano Italy

²Dept. Drug Science and Technology, University of Turin, Turin Italy

Introduction

Dieffenbachia seguine (spp): Araceae family, is an ornamental plant and all parts of the vegetable contain insoluble calcium oxalate sharp needle-shaped crystals (raphides); accidental ingestion can cause severe irritation of mucous membranes and swelling of the tongue, lips and palate. This report describes a case of severe *Dieffenbachia spp* poisoning after accidental ingestion because the patient had taken *Dieffenbachia spp* for *Apium graveolens* better known as celery.

Methods

The Milan Poison Control Center, from 2010 to 2014 collected 57 toxicological enquiries relating to *Dieffenbachia spp* (Fig.3). The following data were collected: age and sex of patients, source of request, agent involved, route of exposure, circumstances of exposure, location of exposure and symptoms present.

The Milan Poison Control Center Epidemiology on Dieffenbachia poisoning

The Milan Poison Control Center, from 2010 to 2014 treated 57 patients exposed to *Dieffenbachia spp*; almost all patients has eaten accidentally the vegetable (N.56; 98,25%), only a young woman (1,75%) has ingested it voluntarily for self-injury. More than 78% (N.45) of patients involved in poisoning were children and the majority of enquiries came from citizens all over Italy (N.32; 56%).

Case report

On February 2014 a male, 76 years old and 90 kg weight, was admitted to Emergency Department with severe symptoms: vesicles and lesions on the lips, tongue, oesophagus and glottis; difficulty in breathing and swallowing; oral-pharyngeal pain, swelling and oedema. The patient, immediately transferred to the Otolaryngology Surgery, was tracheostomied and was given adrenaline at intervals of 30 minutes. The man, about an hour before, had eaten some stems of the vegetable that his wife had pruned and that he had taken for *Apium graveolens* (Fig.4) celery. Irritation is caused by mechanical action of the raphides, however the agent which provokes the swelling and the respiratory distress may be an unidentified proteolytic enzyme with irritant action and deemed the cause of local swelling. The treatment was successful and the man was discharged from hospital after a week. An explanation of the strong local irritation can be connected to the combination of two factors: the mechanical effect of the puncture by raphides (small needles) and the chemical effect due to the presence of toxic protease that are located on the surface and in the grooves of the crystals themselves.

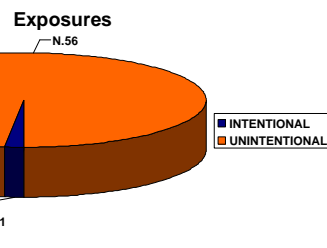


Fig.1. Circumstances of exposure

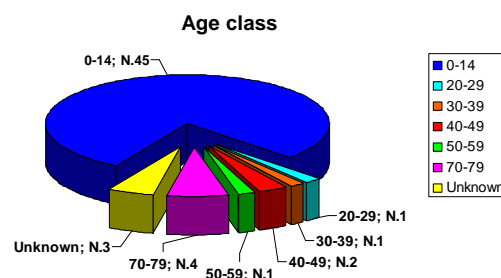


Fig.2. Age class distribution

Conclusions

It would be desirable that everyone pay a greater attention to the fact that even natural plant could be dangerous as they can hide important pitfalls and it is absolutely not true that everything that is natural is good and safe.

References

1. Kirk L. Cumpston et al: *Acute airway compromise after brief exposure to a Dieffenbachia plant*, The Journal of Emergency Medicine, Vol. 25, No. 4, pp 391-397, 2003.
2. K M Adhikari: *Poisoning Due to Accidental Ingestion of Dieffenbachia Plant (Dumb Cane)*, Indian Pediatr, 2012 Mar; 49(3): 247-8.
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Fig. 3. Plant that the patient ate.



Fig. 4. Plant that the patient thought to have eaten.



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