Poisoning Due to Accidental Ingestion of *Dieffenbachia* Plant (Dumb Cane)

Accidental ingestion of plants and seeds by children are not uncommon and can result in significant symptoms necessitating hospital admission and emergency treatment. Indian data on the exact proportion of poisoning due to these toxic plants are not available. The Araceae family of plants is the major cause of symptomatic plant ingestions in some developed countries (*Dieffenbachia* and *Philodendron*) and in Zimbabwe (Elephant's Ear), especially in children [1]. A case of *Dieffenbachia* plant (Dumb cane) ingestion followed by severe tongue swelling is presented.

A nine-year-old boy was brought to the emergency department with history of severe irritation and pain in the mouth with difficulty in swallowing and drooling of saliva. The onset was acute, subsequent to chewing of a portion of a leaf and the stem of a nearby plant accidentally while playing in a park. Child's parents attributed the symptoms to this incident and carried both the leaf and the stem to the emergency department (***Fig.* 1**). On examination the boy had severe pain in the mouth and throat with dysphagia. There was no compromise of airway. He had severe upper abdominal pain also. Within a span of one hour, he developed extensive erythema of the mucus membrane of the mouth and throat with severe swelling of the tongue. The plant was identified as *Dieffenbachia* and the clinical profile observed matched with the consumption of the leaf of this toxic ornamental plant.

The boy was admitted and treated with intravenous fluids, analgesics, antacid, antihistaminic and ranitidine. He was not able to take anything orally for two days. From third day onwards, the swelling and the redness of the tongue reduced, pain abdomen subsided and he was able to tolerate liquid diet. Whitish grey slough that had formed started disappearing from the tongue gradually, leaving erythematous, sore areas. He made uneventful recovery and was discharged after four days.

Ingestions involving the *Dieffenbachia* plant from Arum family are associated with the development of intense irritation of mucous membranes, resulting in swelling of the tongue, lips and palate. *Dieffenbachia* causes severe local injury to the tissues due to the oxalate crystals contained in the plant juice. In severe cases there may be even airway compromise. Among 188 cases of toxic plant ingestions identified by Mrvos, *et al*.[2], the integrity of the leaf had been broken in all cases and dieffenbachias accounted for 32.5% of the cases. Majority of the involved children were aged 4-12 months. Only 2.1% (4 cases, *Dieffenbachia*-3, *Philodendron*-1) of the patients were severely symptomatic [2]. In a series from Switzerland, *Dieffenbachia* poisoning accounted for 11 cases with severe stomatitis in eight and corneal lesions in three patients [3].

FIG. 1 *Dieffenbachia plant leaf and the stem.*

When ingested, the common house plant dieffenbachia can lead to significant toxicity and possibly death if timely medical attention is not forthcoming following initial exposure. The deleterious effects should not be overlooked, especially when children are involved who may bite into this innocuous looking plant [4]. Close observation is required to prevent progressive swelling of tongue and adjacent tissues interfering with the airway. Educating the people about the toxicity of *Dieffenbachia* is crucial in view of the wide spread indoor use of this ornamental plant.

K M ADHIKARI
Senior Advisor in Pediatrics,
INHS Dhanvantari, Minnie Bay,
Port Blair, A & N Islands 744102.
kmadhikari@gmail.com

REFERENCES

1. Tagwireyi D, Ball DE. The management of Elephant's Ear poisoning. Hum Exp Toxicol. 2001;20:189-92.
2. Mrvos R, Dean BS, Krenzelok EP. Philodendron/ dieffenbachia ingestions: are they a problem? J Toxicol Clin Toxicol. 1991;29:485-91.
3. Jaspersen-Schib R, Theus L, Guirguis-Oeschger M, Gossweiler B, Meier-Abt PJ. Serious plant poisonings in Switzerland 1966-1994. Case analysis from the Swiss Toxicology Information Center. Schweiz Med Wochenschr. 1996;126:1085-98.
4. Pamies RJ, Powell R, Herold AH, Martinez J. The dieffenbachia plant. J Fla Med Assoc. 1992;79:760-1.

Does Choice of Treatment Protocol have Impact on outcome in T-cell Lymphoblastic Leukemia?

We read the article by Arya, *et al*. on T-cell acute lymphoblastic leukemia (ALL) outcome with interest [1]. Although ALL outcome has improved in India but sepsis and loss to follow up remain barriers to improving outcome [2]. Here we describe impact of choice of protocol on patients with T-cell ALL at our center. Out of 288 children newly diagnosed as ALL between July 2005 to Jan 2011, 41 (14.2%) had T-cell ALL, which is similar to Western data 15-18% [3]. However, it is much lower than that reported by Arya, *et al*. (30%) [1]. Median age of presentation was 7.5 years (9 month-18 years) (M:F=6:1) and 34% aged >10 years. 39% patients had hyperleukocytosis (>50000/mm^3), which is lower than 58.3% reported by Arya, *et al*. [1]. Children were treated as per BFM-95, UKALL-XI, MCP-841 and Interfant-99 protocols. Twelve (29.2%) were lost to follow up (LFU) and 29 opted for treatment, of these 24(82.7%) achieved complete remission (CR1). Four died in induction and one had refractory disease. Four died in remission. Nine (31%) relapsed (Medullary-4, combined-3, testicular-1,isolated CNS-1). Eleven (38%) patients are alive and in CR1.Eighteen patients were treated on BFM 95 protocol (14 medium risk and 4 high risk as per BFM-95 risk stratification), of these 13 achieved CR1, 4 died in induction and 1 had refractory disease. Out of 13, 8 are in CR1 (at median follow up of 2.5 years), one relapsed and 4 had remission deaths. Ten patients were treated on UKALL-XI protocol, 9 achieved CR1 and 1 died in induction. Out of 9 in CR1, 7 relapsed, 1 alive and 1 LFU. Two patients were treated on MCP-841 protocol one is in CR1 and 1 LFU. One infant was treated on Interfant-99 protocol who relapsed at 18 months from diagnosis and died. Relapse rate was significantly lower for more intensive BFM-95 as compared to UKALL-XI protocol (*P*-value 0.001). However treatment related mortality was very high (44%) for BFM-95 as compared to 10% for UKALL-XI protocol. Our results are inferior to original BFM-95 protocol (74.8% 6-year event free survival (EFS) in T-cell ALL) [4] while UKALL XI protocol [5] showed 61% 8-year EFS with no separate data for T-immunophenotype. We conclude that choice of treatment protocol has huge impact on outcome in T-cell ALL.

MOHAMMED RAMZAN AND SATYA PRAKASH YADAV

Pediatric Hematology Oncology and Bone Marrow Transplant Unit, Institute of Child Health, Sir Ganga Ram Hospital, Delhi 110 060, India. satya_1026@hotmail.com

REFERENCES

1. Arya LS, Padmanjali KS, Sazawal S, Saxena R, Bhargava M, Kulkarni KP, *et al*. Childhood T-lineage acute lymphoblastic leukemia: management and outcome at a tertiary care center in North India. Indian Pediatr. 2011;48:785-90.
2. Yadav SP, Dua V, Sachdeva A. Sepsis is a major barrier to improving survival in childhood acute lymphoblastic leukemia in the developing World. J Pediatr Hematol Oncol. 2011;33:636.
3. Vrooman LM, Silverman LB. Childhood acute lymphoblastic leukemia: update on prognostic factors. Curr Opin Pediatr. 2009;21:1-8.
4. Möricke A, Reiter A, Zimmermann M, Gadner H, Stanulla M, Dördelmann M, *et al*. Risk-adjusted therapy of acute lymphoblastic leukemia can decrease treatment burden and improve survival: treatment results of 2169 unselected pediatric and adolescent patients enrolled in the trial ALL-BFM 95. Blood. 2008;111:4477-89.
5. Chessells JM, Harrison G, Richards SM, Gibson BE, Bailey CC, Hill FG, *et al*. Failure of a new protocol to improve treatment results in paediatric lymphoblastic leukaemia: lessons from the UK Medical Research Council trials UKALL X and UKALL XI. Br J Haematol. 2002;118:445-55.