

Brief Reports

Accidental Poisoning in Children

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Accidental poisoning is a common medical emergency and major cause of mortality in infants and toddlers. In our country, the family size is large and accommodation small. Poisonous substances are kept in easily accessible places. This, combined with a lack of supervision by the parents is one of the main reasons for the appreciable number of cases of poisoning admitted to this hospital. We report the common causes, clinical features and the outcome in cases with accidental poisoning admitted to our hospital during the last five years.

Material and Methods

The case sheets of patients of suspected accidental poisoning admitted to the Children's Hospital, Patna Medical College and Hospital, Patna from January 1988 to December 1992 were examined retrospectively. The detailed clinical features, complications and outcome were recorded.

Results

Of 226 cases of accidental poisoning, 139 were boys (61.5%). The mean age was $2\frac{1}{2}$ (± 1) years. Among the various types of poisonings encountered (*Table I*), the most

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TABLE I—Agents Responsible for Accidental Poisoning

Agents	No.	%
Kerosene	130	57.7
Organophosphorus	14	6.2
Food	10	4.4
Gammabenzene hexachloride and other insecticides	8	3.5
Rodenticides	8	3.5
Corrosives	8	3.5
Dhatura	6	2.6
Miscellaneous drugs (piperazine, metoclopramide, digitalis, codein)	6	2.6
Dapsone	5	2.2
Miscellaneous	12	5.3
Unknown	19	8.5

common was that due to kerosene (n=130; 57.7%). Out of these, 52 cases had taken a small amount of the oil and were asymptomatic except for the smell of kerosene in breath. Seventy eight cases, that had aspirated the oil presented with cough and dyspnea. Only two cases presented with severe cyanosis, an ashen pallor of the skin and cheek. Both these patients died.

Poisoning by organophosphorus compounds comprised the next most important group (n=14; 6.2%). These cases presented with headache, giddiness, profuse sweating, marked salivation and constricted pupils. Cases of poisoning with other insecticides, namely, DDT (dichlore-diphenyl-trichloroethane) and Finit (pyrethrins + malation in kerosene base) presented with incoordination tremors and convulsions. These cases were mild and recovered completely. Among the insecticides, celphos (aluminium phosphide) used as a preservative for grains was associated with a high mortality. Two cases reported with profuse vomiting, restlessness, drowsiness and

shock; one patient died. Gammabenzene hexachloride and acids (hydrochloric acid) were incriminated in 8 cases each. Cases of acid poisoning had dyspnea with signs of burns on their hands and oral mucosa.

Accidental ingestion of dapsone was seen in 5 cases. These cases presented with anemia, irritability and cyanosis. Methylene blue 1-2 mg/kg IV was used in two of the five cases with satisfactory response.

Discussion

Most of the cases reported were from families where both the parents were working or where there were a number of children. Toddlers in the age group of *PA to 3* years were the most frequent victims as observed by previous workers (1). Boys who tend to be more hyperactive generally outnumber girls (1).

Kerosene was the most common single agent, probably because of its high use as a cooking fuel. Our studies showed higher occurrence of kerosene poisoning (57.7%) as compared to previous reports (30%) (1). However, a similar figure was reported from other developing countries like Libya (50.93%) (2). In some developed countries, drugs are the most common cause (80%) (3).

Among the preservatives used for grain, aluminium phosphide proved to be a potent poison with 50% mortality. Up to 77.2% mortality has been reported by previous workers (4,5). Dapsone, a drug used in the treatment of leprosy, too, was responsible for 2.2% of the cases. Although, methylene blue was used in only two of the five cases, they showed dramatic response. Complete disappearance of cyanosis and irritability after two intravenous injections of methylene blue have been reported previously (6).

Acids and detergents have to be kept very cautiously as their ingestion causes severe burns with chances of airway obstruction and esophageal stenosis(7). Gammabenzene hexachloride was shown

to cause numbness, tingling and paraesthesias. Leaving it on skin for too long also causes toxicity (8). Generalized tonic clonic seizures have also been reported following its use.

Most of the cases of poisoning are due to the negligence of the parents. The patients are usually brought late to the hospital when the patients are critically ill. It is important that parents should know the hazards of commonly used articles at home and should keep these things out of reach of the children. They should never treat a case of accidental ingestion of any poisonous substance lightly and should bring the child immediately to the hospital. It is important to be aware of the common household items which can cause poisoning in children and steps should be taken to prevent such accidents.

REFERENCES

1. Pohowalla JN, Ghai OP. Pattern of accidental poisoning in children in Central India. *In: Essential Pediatrics*, 2nd edn. Ed. Ghai OP. New Delhi, Interprint, 1990, pp 408-411.
2. Banerjee G, Chugh JC, Singh H, Manhouls M, Shembesh N. Accidental poisoning in Benghazi, Libya. *Indian Pediatr* 1990, 27: 390-393.
3. Frazer NC. Accidental poisoning deaths in British Children, 1958-77. *Brit Med J* 1980, 280: 1595-1598.
4. Ahmad SH, Fakhir S, Gupta S, Singh RK. Celphos poisoning. *Indian Pediatr* 1991, 28: 300-301.
5. Chugh SN, Singhal HR, Girdhar NK, Arora BB, Malhotra KC. Aluminium phosphide poisoning: Analysis of 228 cases. *J Assoc Phys India* 1989, 37:28-31.
6. Nayak US, Gandhi DJ, Shah AR. Acute dapsone poisoning. *Indian Pediatr* 1989, 26: 730-731.
7. Moulin D, Bertrand J, Buts J, Nyakabasa M, Otte J. Upper airway lesions after injection of caustic substances. *Pediatrics* 1985,106: 408-410.
8. Sarkar M, Sarkar AK, Biswas SK. Gammabenzene hexachloride neurotoxicity. *Indian Pediatr* 1993, 30:1358-1359.