

# SUSPECTED CONTAMINATED MARGOSA OIL POISONING

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## INTRODUCTION

MARGOSA OIL, an extract from the seed of the Indian neem tree *Azadirachta indica* is a yellow offensive oil with a bitter taste. It is occasionally used by the Indians as a general household remedy. Although large doses can cause nausea and diarrhoea, other side effects have so far not been reported.

Four infants admitted within a period of one month to the University Hospital, Kuala Lumpur with convulsions following the ingestion of commercial margosa oil form the basis of this report. The

main features of the patients are summarised in Table I.

All four infants were Indians living in Kuala Lumpur. There were 2 males and 2 females, whose ages ranged from 3 to 8 months. The infants were given 5 to 30 ml of margosa oil. The indications were constipation in one case and mild cough in the others. All 4 infants had been otherwise healthy. All of them developed severe tonic clonic convulsions within 2 hours of ingesting the oil and were admitted to the University Hospital.

Table I  
Summary of cases admitted

Patient	1	2	3	4
Age (mths)	5	8	3	4
Sex	Female	Female	Male	Male
Chief complaint	Convulsions	Convulsions	Convulsions	Convulsions
Amount of oil ingested	2 tablespoon	2 tablespoon	2 teaspoon	1 teaspoon
Time interval from ingestion to fits (hr)	2 hours	2 hours	2 hours	2 hours
Management	sedation *IPPR in †ICU	sedation intubation †ICU	sedation intubation †ICU	observation
Recovery	complete	complete	complete	complete
Duration of hospitalization (days)	9	28	4	4

\*IPPR - intermittent positive pressure respiration.  
†ICU - Intensive Care Unit.

The 1st case who received the largest dose of margosa oil (30 ml) had severe intractable convulsions which did not respond to intravenous valium and dilantin. She had respiratory depression with respiratory acidosis which required ventilatory support with an intermittent positive pressure respirator. Convulsions in the 2nd and 3rd cases responded to intravenous valium. However both infants had copious pharyngeal secretions and needed intubation for airway protection. The 4th case also had convulsions which had been controlled by a general practitioner with intramuscular paraldehyde. This patient did not require intensive care, and was discharged after a few days of observation. Case 2 and 3 had been given margosa oil on previous occasions using different samples, without any harmful effects. All four infants recovered completely.

## INVESTIGATIONS

The investigations carried out in the four patients are summarised in Table II. Apart from severe respiratory acidosis in case 1, and mild leuco-

cytosis in all 4 cases, no other abnormalities were detected.

## Toxicity Tests

Margosa oil obtained from various shops in Kuala Lumpur as well as the samples used by the patients were tested for toxicity in mice. The studies have revealed the presence of a toxic component. Further investigations are in progress to identify the toxin.

## DISCUSSION

Although margosa oil has been in use for generations in Indian households, convulsions have so far not been reported. All the cases reported here have been infants. It may be possible that the dose given to the infants may have been excessive in relation to their size, as compared with that of adults. Two of the infants had been given the oil on previous occasion with no ill effects suggesting that the previous stocks had been either completely

Table II  
Results of investigations on admission

Case	1	2	3	4
Haemoglobin gm/dl	10	13.1	8.2	12.7
Total White Count per cumm	21,000	17,100	18,200	15,400
Differential Count (%)	N 67 L 29 M 4	N 82 L 13 M 3 E 2	N 32 L 67 M 1	N 65 L 34 M 1
Blood Sugar mg%	68	280	39	73
Blood Urea mg%	20	26	35	16
Serum Na mE/L	142	136	144	146
Serum K mE/L	5.2	5.1	4.0	5.2
Serum CL mE/L	101	92	97	108
SGOT IU/L	36	24	60	Insufficient
SGPT IU/L	Insufficient	Insufficient	20	Insufficient
Serum Alkaline Phosphatase IU/L	112	Insufficient	180	180
pH	6.99	7.41	7.44	
pCO <sub>2</sub> (mmHg)	78	35	36	Not done
Base Excess (mE/L)	-9.0	-1.5	+0.5	
Blood Bicarbonate mE/L	17.5	22	24.5	
pO <sub>2</sub> (mmHg)	159	71	123	
Cerebro spinal fluid	Not done	Normal	Normal	Normal

free of toxins or contained less toxins than the batch of oil under investigation.

Margosa oil is manufactured in India, imported in metal drums and repacked locally into cans and bottles. Hence there are many sources of possible contamination. A definite answer awaits the identification of toxins.

#### **SUMMARY**

Four infants with suspected contaminated margosa oil poisoning and presenting with convulsions are reported. Toxicity studies reveal that the oil is toxic to mice. The identity of the toxin is in the process of being established.

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#### **REFERENCES**

- Chopra, R.N. (1965): *Poisonous Plants of India*. Indian Council of Agricultural Research, New Delhi, 2nd Edition, pp 246-248.
- Stecher, P. (1968): *The Merck Index of Chemicals and Drugs*, Merck & Co., Rahway, U.S.A. 8th Edition, pp. 732-733.

