Research Article

Accidental ingestion of mosquito repellent liquid vaporizer

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Abstract

Background: Accidental poisoning of mosquito repellent liquid vaporizer. **Case Characteristics:** A 3 yrs old male child accidently ingested liquid of mosquito repellent vaporizer. **Observation:** Child was immediately brought to emergency department of our hospital with urticarial rash all over the body. **Outcome:** Child was managed conservatively with antihistaminic injection and kept under observation for any respiratory or other complications. **Message:** Potentially poisonous things should be kept away from the children.
Key words: Poisoning, mosquito repellent liquid vaporizer.

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INTRODUCTION

Pyrethroids are synthetic modifications of natural pyrethrins and are used as insecticides. Pyrithrins are extracts from the flowers of chrysanthemum cinerarilifolium. Pyrithroid formulations available for the control of household and agricultural insects and human lice include aerosol sprays, smoke coils, liquid vaporizers, electric mats etc. Pyrithroids have a highly selective toxicity for insects compared to mammals which is due to higher insect nerve sensitivity, lower mammalian skin absorption and more efficient mammalian hepatic metabolism. We report an unusual case of accidental liquid mosquito repellent veporizer poisoning in a Three year old male child. A Three year old male child was taken to our emergency department with the complaint of ingestion of liquid mosquito repellent vaporizer. As told by his mother child accidently ingested whole liquid of mosquito repellent vaporizer which was new and was not used till that time. Time of ingestion of liquid was about half an hour prior to coming to emergency department. As told by mother, child immediately vomited after taking liquid vaporizer. On examination child was conscious with urticarial rash all over the body and running nose. Child was immediatly admitted, vitals recorded which were all stable with pulse rate 88/min, respiratory rate 24/min, and blood pressure and SpO2 within normal range. On examination of respiratory system no evidence of excessive secretion was found in the form of crepts and chest was bilaterally clear. Rest of the systemic examination was within normal limits.Child given injectable antihistaminic in the form of pheniramine maleate. Child was kept in PICU for contineous observation. A Chest X-ray was done after 6 hrs to look for any signs of chemical puemonitis caused by the deodorised karosene present in liquid vaporizer. Urticarial rash subsided within 6 to 8 hrs and no further rash appeared till next 24 hrs. There were no untoward effects thereafter. child was kept in ward for one day after one day of PICU stay .Child discharged on third day with advice to parents to keep potentially poisonous things out of reach to children.

DISCUSSION

In year 1982 from Spraymen, China an outbreak of acute deltamerine (pyrithroids) poisoning was observed. Since then occasional cases of pyrithriod poisoning are reported

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time to time.As told earliar pyrithroids are the structural derivatives of naturally occurring pyrethrins. As pyrethrins are rapidely biodegraded so they are not used as insecticides though pyrethrin has a very strong insecticidal activity. Their structural modification causes increased potency and toxicity.[1,2] They are widely used, organic, environment friendly, and multipurpose insecticides with a long safety record for both acute and chronic intoxication in human beings. They are not stored in the body fat, nor penetrate the intact skin, and are very rapidly metabolised in the body into non- toxic metabolites. Pyrethrins have been established to be an allergen and are responsible for dermatitis, conjectivitis and rhinitis like symptoms. Fatal hypersensitivity reaction including the respiratory tract may be possible.[3] The exact mechanism of poisoning is a change at the voltage-gated sodium channels i.e. leading to repetitive discharges and synaptic disturbances.[4] Severe toxicity is believed to be due to decrease in chloride through voltage- dependant chloride channels.[5] Pyrethroids in high concentration act on GABA- activated chloride channels, leading to seizures.[5,6] This explains an unsusal association of status epilepticus to pyrithroid poisoning. In our case the child accidently cosumed liquid veporizer .He was immediately taken to the emergency department of our hospital.He showed sign of allergic reaction which were controlled with immediate antihistaminic administration and gastric lavage was not done as the liquid vaporizer contains deodorised karosene 97.12% w/w.other ingredients which are there in that liquid vaporizer which was taken by the child as per the leaflet were transfluthrin(a.i) 0.88%w/w, butylated hydroxybutane 1.00%w/w, perfume 1.00%w/w. This child showed only mild signs of intoxication in form of urticarial rash probably because he vomited after ingestion of liquid vaporizer. We observed the child for chemical puemonitis as found in similar case report by Chandela S *et al*, but none of the signs and symptoms were found.[6] So child treated conservatively and discharged on third day.

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