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Dermal Organophosphorus Poisoning in a Girl with a Hip Spica

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Organophosphorus compounds available as pesticides and insecticides are a common cause of poisoning in India. Ignorance amongst the public of the lethal potential of these chemicals absorbed through the dermal route led to serious intoxication in a young girl. The peculiar mode of poisoning prompted us to share this unique experience.

Case Report

A 3-year-old girl presented with a two day history of vomiting and loose stools. In the 24 hours preceding admission, child had altered sensorium, excessive frothing from mouth and twitching movements of the facial muscles. She had fractured her right femur a fortnight ago and had a hip

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spica. On examination, the child was drowsy but arousable on painful stimuli. The pulse rate was 82/min and the blood pressure 94/68 mm Hg. She had pin point pupils and excessive secretions in oral cavity. Auscultation revealed bilateral crepitations and occasional ronchi.

The clinical features were consistent with a diagnosis of organophosphorus poisoning. However, no history of drug ingestion could be obtained. A careful examination revealed greenish stains over the hip spica. On direct questioning, the parents revealed that they had been applying Tik-20 (Fenthrion) to kill the bed bugs which had infested the inner cotton lining of the plaster cast, which lead to slow and sustained absorption of the poison. The cotton removed from the cast had the characteristic odor of an organophosphorus compound.

The spica was immediately removed and the skin thoroughly washed with soap and water. Systemic toxicity was managed with Inj. Atropine and 2-PAM. There was rapid improvement in the sensorium after administering 2-PAM. There was complete recovery of all symptoms in the next 6 hours. Atropine was continued for 72 hours and gradually withdrawn over the next 48 hours.

A fresh hip spica was applied and child discharged. The hazards of the practice adopted to kill parasites, were explained to the parents.

Discussion

As a group, the organophosphate insecticides are highly toxic chemicals that are rapidly absorbed by all routes, viz., respiratory, gastrointestinal, ocular and dermal(1). Absorption of poison through intact skin without causing local irritation has

been reported to be fatal(2). There is no report in the literature of the peculiar mode of poisoning seen in our case. A prompt and early diagnosis resulted in a favorable outcome.

This case highlights the extent of ignorance about the lethal chemicals which are commonly used by agriculturists in rural India. Masses need to be provided adequate information about these poisons, so that such accidents are avoided.

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Acute Mercury Vapor Poisoning

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Campbell in 1948 reported first case of elementary mercury vapor poisoning(1). The recent high price of gold has stimulated many persons to extract gold from ore by forming a gold mercury

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