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ORGANOPHOSPHATE INSECTICIDE POISONING BY INTRAMUSCULAR INJECTION

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ABSTRACT

Two cases of organosphate poisoning by *i/m* route are being reported

Figures : 03 References : 10 Table : 00

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Introduction

In developing countries like India where most of the population depend on agriculture, organophosphates and other insecticidal poisoning are common[1,2,8].

Oral ingestion (accidental and suicidal), inhalational (mostly accidental) and absorption through skin are common routes[1,2,8].

Parental route of administration, of this poison is extremely rare [1,2,3,4,5,6]. We could hardly find only 5 to 6 reports of parental injection of organophosphate insecticide on PUB MED search. Here we are reporting, two extremely rare and unusual cases of, self administration of injection of organophosphate insecticide parentally. Both patients administered ~5 ml of profenofos 50% ec organophosphate intramuscularly in deltoid region of left arm.

Case -1

A 40 years old female came to emergency of MLB medical college Jhansi with chief complaint of pain and swelling in left arm with dizziness, ghabrahat, nausea, vomiting.

On examination Pupils were small in size, chest bilateral clear, B.P 120/80mm Hg, PR 90/min with swelling, erythematous reaction of 2X2 cm area in left deltoid region.

Patient gave history of injecting an organophosphate insecticidal agent profenofos 50% ec in her left deltoid muscle with 5 ml syringe. Patient was initially managed conservatively with PAM and atropine 10 mg on the first day of admission. On day 2 patient was stable on PAM and atropine, but greater dose of atropine has to be required which was given (30 mg), along with supportive care and treatment. On 3rd day patient developed severe bronchospasm with diarrhea, B/L pinpoints pupil's 100 mg atropine was given. Total 160 ampoules atropine was used. Her symptoms persisted till 15th day of admission. On day 5 of admission patient also developed abscess on injection site for which incision and drainage done. IV Antibiotics were also given. Patient was discharged on 16th day.

Case – 2

A 42 year old male, husband of case-1 also self administered ~5 ml of profenofos 50% ec in left arm deltoid region and developed nausea, vomiting , ghabrahat and was admitted in medical college Jhansi, at same time. On admission he had signs of organophosphate poisoning with bilateral small size pupils. He had B.P of 130/80mmHg & PR of 80/min. He also had swelling

Fig. 1 :

and erythematous reaction of 3X2 cm in left deltoid region. Patient was initially managed conservatively on day one of admission with PAM and atropine 10 mg. On day 2 patient was stable on PAM 1 g IV TDS with atropine 30mg iv. On day 4 patient developed severe bronchospasm with pinpoint pupils 80 ampoules atropine was given. On the same day patient also developed abscess on injection site for which incision and drainage done. Antibiotics which the pt. was receiving was upgraded. He was discharged on 14th day, after admission.

Discussion

Organophosphate poisoning is common particularly in rural India[1,2]. Parental route of administration, of this poison is extremely rare[1,2,3,4,5,6]. Here we reported two extremely rare and unusual cases of insecticidal poisoning by I/m route.

In both cases initially symptoms were not so severe but later patient developed frank symptoms, probably because of delayed release of the poison from the I/m depot of lipophilic poison.

From the observation one can conclude that symptoms and complications in insecticidal poisoning depend not only on the pesticide, dose, and time between poisoning and start of treatment but also on route of administration of poison.[8]

Another aspect is not only systemic toxicity but local inflammatory findings are to be expected in case of s/c and I/m injection of insecticides mainly because of vehicle solvent (in this case vegetable oil polyglycol ether, alkyl aryl sulfonate calcium salt, soya bean oil epoxidised, solvent C-9). Therefore, abscess formation is common [3]. Abscess may be infected due to use of contaminated syringes. Such injuries are also a potential portal of entry to clostridium tetani, hepatitis B, HCV.

In short this report draws attention to following facts:

1- In parenteral route of organophosphate poisoning symptoms may develop late and patient should not be diagnosed as mild case

Fig. 2 :

Fig. 3 :

and discharged early but kept in observation for delayed symptoms due to release of poison from depot site.

2- Patient who injects organophosphate insecticide s/c or I/m may develop local abscess. Tetanus prophylaxis and antibiotics are recommended.

3- Usual measures such as induction of vomiting with gastric lavage and use of activated charcoal are probably useless in this situation. Local debridement of injection site could be a possible measure to be taken in such cases aiming at removing depot of injection.

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