

Case Report

Cartap hydrochloride poisoning: a case report

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ABSTRACT

Cartap hydrochloride is a thiocarbamate insecticide used for control of chewing and sucking insects of all stages of development, on many crops. It is an analogue of nereistoxin. Poisoning with cartap is very rarely reported from India. We report a 46 year old man who consumed cartap with alcohol, presented with nausea & vomiting and improved with supportive measures

Keywords: Cartap hydrochloride, Nereistoxin, Insecticide

INTRODUCTION

Cartap hydrochloride, a nereistoxin analog, is a commonly used low toxicity insecticide.¹ It is a nicotinic acetyl choline blocker, causes paralysis by blocking cholinergic transmission in central nervous system of insects.² Cartap is essentially a contact and stomach poison. Its basic chemical Structure is S, S-[2-(dimethylamino)-1, 3-propanediyl] dicarbamothioate and is normally used as the hydrochloride (cartap hydrochloride). To the best of our knowledge, there are only two previous case reports of cartap poisoning from India.

CASE REPORT

A 46 year old male presented to our emergency department with history of consumption of cartap hydrochloride, mixed with alcohol. He was a chronic ethanolic, diabetic & hypertensive, not on any regular treatment. He presented with nausea and vomiting.

There was no history of breathlessness, seizure, altered sensorium, excessive salivation, loose stools, sweating. He was conscious, oriented with stable vitals. His pupils were bilaterally equal, 3 mm size & reacting. He had

conjunctival congestion, petechiae over palpebral conjunctiva & subconjunctival hemorrhage of both eyes. All other system examinations were normal. The hemogram, liver function, renal function, coagulation profile were normal. The chest X-ray & ECG were normal. The serum pseudo-cholinesterase level was normal.

The patient was managed with supportive measures-gastric lavage, activated charcoal, pantoprazole He improved in 24 hours without administering any antidote. He was discharged on the third day after counseling.

DISCUSSION

Cartap was first introduced in Japan in 1967. Cartap has been considered to be a relatively safe compound and is used worldwide. It is a colourless, crystalline solid with slight odour, with negligible solubility in water, very slightly soluble in ethanol. It is an analogue of nereistoxin, a neurotoxic substance isolated from a marine annelid.¹ It is a nicotinic acetyl choline blocker, causes paralysis by blocking cholinergic transmission in central nervous system of insects. Cartap is essentially a contact and stomach poison.²

Toxicity with cartap is very uncommon. The main routes of exposure are ingestion, skin contact and eye exposure. Cartap and its metabolite, nereistoxin, are thought to act by neuromuscular blockage through inhibition of the postsynaptic nicotinic acetylcholine receptor ion channel, leading to salivation, nausea, vomiting, abdominal pain, and tremor of the arms and legs. The ocular manifestations include conjunctival congestion, petechiae & subconjunctival hemorrhage. In severe cases, it causes convulsions, respiratory failure, and subsequent death. At present the recommended antidotes for Cartap poisoning are an intravenous injection of 100-200 mg of L-cysteine or an intramuscular injection of 20-60 mg of British Anti Lewisite.

There are only seven reports of human cartap poisoning in the literature and are mostly from Japan and China, of which 3 were fatal and 4 survived. Namera et al. reported an 83-year-old woman with suicidal cartap poisoning by ingestion of 4% cartap, who presented with coma and received gastric lavage 3 hours after ingestion. She recovered completely with the gastric lavage and supportive management.³

Kiyota et al. reported a case of cartap intoxication: on in a woman who ingested solution containing 50% cartap and presented with loss of consciousness to the hospital presumably 45 min after ingestion. She received gastric lavage immediately after hospitalization and recovered.⁴

There are only 2 case reports of cartap poisoning from India. Praveen et al. reported a 35-year-old lady with cartap poisoning who presented with nausea, vomiting,

and dyspnea.¹ She improved with N-acetyl cysteine and symptomatic management.

To the best of our knowledge this is the first reported case of Cartap hydrochloride poisoning from India in which the patient recovered from poisoning with gastric lavage and supportive management only.

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