

**A RARE CASE OF SURVIVAL AFTER LATE PRESENTATION OF WEEDICIDE 2,4-D (ETHYL ESTER) POISONING AT A TERTIARY CARE HEALTH CENTRE IN BIHAR****Dr. Lalit Kumar<sup>1\*</sup>, Dr. Amarjeet Kumar<sup>2</sup> and Dr. Anil Kumar Singh<sup>3</sup>**<sup>1</sup>Junior Resident, Department of Pharmacology, IGIMS, Patna, Bihar, India.<sup>2</sup>Senior Resident, Department of Anaesthesia, AIIMS, Patna, Bihar, India.<sup>3</sup>Medical Superintendent, Ruban Memorial Hospital, Patna, Bihar, India.**\*Corresponding Author: Lalit Kumar**

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2, 4-Dichlorophenoxyacetic acid (2,4 D) is a common agricultural herbicide used against broad leaf weeds in crops, pastures, lawns, golf courses and parks.<sup>[1]</sup> Its usage is more common in Northern India in wheat fields. The formulations include solid alkali salt concentrate, salt miscible solution or ester based emulsifiable concentrate. Though its poisoning has been commonly reported in Europe and North America, it is an uncommon poison in India. Also, there are very few cases wherein the patient has been successfully managed. We report the successful management of 2,4 D poisoning, even though the patient presented to our centre after 4 days of poisoning.

A 24 year old male was referred to our hospital with the alleged history of consumption of some chemical in his house. On presentation, the patient was drowsy (GCS= 8/15) with laboured breathing. His trachea had already been intubated with endotracheal tube in situ and was maintaining a saturation of 70% on room air. On systemic examination his chest had diffuse crepitations. Pupils were mildly dilated with sluggish response. Ecg showed sinus tachycardia. His B.P was 110/70 mm Hg. He had been treated earlier in a local hospital in the lines of organophosphorous poisoning. Since, the patient had deteriorated clinically, he was referred to our hospital. Detailed enquiry was done about the nature of the substance which revealed it to be 2,4 D ethyl ester marketed as "weedmar".

Patient was immediately shifted to the ICU for further management. As this poison does not have a specific antidote, a detailed literature search was done for the management. Most important line of management which was found was forced alkaline diuresis.<sup>[2,3]</sup>

The patient was put on mechanical ventilator due to poor lung condition. Initial hemogram showed increased total leukocyte counts, mildly deranged renal function and thrombocytopenia. Routine urine showed protein +++ and white cells. Chest x ray was suggestive of few infiltrates. Conservative management alongwith forced alkaline diuresis was started with bolus dose of sodium bicarbonate 100 meq followed by injection furosemide 20 mg stat. The treatment primarily consisted of i.v sodium bicarbonate tds, i.v furosemide bd and intravenous fluids. Other conservative management consisted of potassium supplement and i.v antibiotics alongwith regular nebulisation with ipratropium bromide.

On day 3, weaning from ventilator was started. On the end of the day he was weaned of successfully. Post weaning CXR were normal. Patient was kept on Tpiece ventilation for 24 hours and then it was removed. There was gradual global improvement in the condition. Patient started to take oral feed on day 5 of admission in ICU. He was shifted to the step down. After 2 days he was shifted to ward and then discharged.

This case is interesting as survival after 2,4 d ethyl ester is rare as this poison has almost 100% mortality.<sup>[4,5]</sup> Till then only two cases have been reported to have survived after consumption of this chemical. Five of the six cases reported from India till date have had a fatal outcome within the hospital all at PGIMER Chandigarh.

This poison has severe neurotoxicity, nephrotoxicity, myotoxicity, pulmonary and gastrointestinal manifestation.<sup>[6]</sup> The patient had neurotoxic and pulmonary manifestations. Gastrointestinal symptoms manifested as occasional vomiting, there was slight initial nephropathy as reflected by the deranged renal function markers. Interestingly there was thrombocytopenia but with no manifestations.

There was delay in identification of the causative agent at the initial treatment center. Patient was treated for organophosphate poisoning, considering the fact that this poisoning is the commonest in agricultural area. This case highlights the point that not all poisoning are due to organophosphate poisons and proper history taking and prompt identification of the poison lead to better treatment plan. Accurate identification of the poison from the empty packs, timely gastric lavage and forced

alkaline diuresis are thus recommended in future cases of poisoning with this agent.

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