



Letter to the Editor

Oral ulcerations due to paraquat poisoning

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Dear Sir,

Paraquat (1, 1'-dimethyl-4,4'-bipyridium dichloride) is a broad-spectrum liquid herbicide associated with both accidental and intentional ingestion, leading to severe and often fatal toxicity. Although widely available, incidence and reports of paraquat poisoning are not common in India. We report our experience of acute paraquat poisoning presenting with oral, mucosal ulceration, and no systemic abnormalities.

A 23-year-old female presented to the emergency department with a history of intentional consumption of paraquat (approximately 10 ml) 2 days ago as a suicidal attempt due to some domestic reasons. She gave a history of spitting out the liquid soon after oral intake, complained of burning sensation in mouth and inability of food intake. There was no history of loose stools, abdominal pain, breathlessness, cough, seizures, fever, nausea, and vomiting.

On examination, the patient was conscious and oriented and systemic examination was within normal limits. Oral examination revealed extensive oral erosions involving tongue, buccal mucosa, soft palate and hard palate, mucosal surfaces of the upper and lower lip, and mucocutaneous junction of oral aperture. Oral candidiasis was also noted over the tongue [Figures 1 and 2]. Chest X-ray showed no abnormality. A diagnosis of paraquat poisoning/corrosive poisoning was made. The patient was treated with antifungals, oral antibiotics, topical metronidazole, clotrimazole, and mupirocin.

Paraquat (PQ) is produced commercially as a brownish concentrated liquid of the dichloride salt under the trade name of "Tejab" and for horticultural use as brown granules called "weedol" at about 5% concentration [Figure 3]. Lethal dose of paraquat is approximately 30 mg/kg bodyweight, equivalent to 8–10 ml of the 20% solution sold commercially. Due to its low vapor pressure and the formation of large droplets, inhalation of paraquat spray used in the open environment has not been shown to cause any significant systemic toxicity; however, inhalational exposure to paraquat in confined spaces, such as a greenhouse, is known to be associated with fatal pulmonary disease.^[1,2] Mucosal lesions of the mouth and the tongue ("Paraquat tongue") that appear within the first few days and may become ulcerated with bleeding are of little prognostic significance as they occur even in those who spit paraquat out without swallowing. However, it is always important to identify ingested amount of substance as specifically as possible. In our patient, the clinical history, presentation, and documentation of paraquat consumption endorse the diagnosis positive. The most frequent routes of exposure to paraquat, either accidentally or intentionally, in humans are following ingestion or through direct skin contact. Paraquat splashed in the eyes can irritate, burn, and cause corneal damage and scarring of the eyes. High-dose ingestion or severe PQ poisoning has a poor prognosis. Conventional treatment includes

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Figure 1: Extensive oral erosions involving upper and lower lip and mucocutaneous junction of oral aperture.



Figure 2: Multiple oral erosions involving tongue, buccal mucosa, soft palate and hard palate, and oral candidiasis.



Figure 3: Commercially available paraquat under the trade name of “Tejab.”

nasogastric tube fixation, gastric lavage with normal saline, charcoal-sorbitol or fuller’s earth lavage [Figure 4], and hemodialysis while newer options are still underway.^[3-5] In contrast, the use of oxygen can enhance the toxicity by providing more electron acceptors. If at all needed, oxygen should be given in the lower concentrations to the hypoxic patients.

Acute paraquat poisoning is probably a rare cause for oral mucosal ulceration which can also lead to fatal toxicity. At



Figure 4: Fuller’s earth.

present, there is no specific antidote to paraquat poisoning; hence, it is very important to the need to focus on preventive measures and in case of exposure/ingestion, aggressive approach to prevent its complications. The unexplained combination of gastrointestinal symptoms, acute renal injury, and respiratory failure should raise a suspicion of paraquat toxicity, even in the absence of ingestion history.

Declaration of patient consent

Patient’s consent not required as patient’s identity is not disclosed or compromised.

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Conflicts of interest

There are no conflicts of interest.

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