Inhalational injury secondary to oxalic acid and chlorine exposure: a case series

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ABSTRACT

Background: Inhalational injury secondary to oxalic acid and chlorine, individually, is uncommon, and a combination of the two is rare. Injuries from both agents are from accidental ingestion or inhalation, and attempts to self-harm.

Objectives: We present patients exposed to oxalic and chlorine gases and seen at the emergency department, the adverse reactions related to the time of exposure, abnormalities in the diagnostic exams, and management.

Case Series Presentation: A total of six patients were seen in this study. Patients exposed for 2 minutes to 10 minutes experienced difficulty breathing, non-productive cough, sore throat, shortness of breath, and throat itchiness. However, vomiting was noted in a patient who was exposed for 15 minutes. There were no significant changes on complete blood count, electrolytes, 12-lead electrocardiograph, and chest radiograph, with one exception. There was an incidental finding of pneumonia in one of the patients. Conservative treatment was given to all patients, including IV hydration, steroid therapy, oxygen supplementation, and IV proton pump inhibitor (PPI). All patients were discharged after treatment and observation in the Emergency Department.

Conclusion: Hazardous effects of the inhalation of oxalic acid and chlorine were seen in patients, manifesting with respiratory symptoms. Length of exposure may be a factor in the severity of the symptoms. Rare cases of inhalational injury from both agents can be managed conservatively.

Keywords: Inhalational injury, oxalic acid, chlorine exposure.

Conflict of interest

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Consent for publication

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Ethical approval

Ethical approval is not required at our institution to publish an anonymous case report.