

MO-16

Clinical characteristics and outcomes of glutaraldehyde poisoning

Suthimon Thumtecho¹, Satariya Trakulsrichai^{2,3}, Winai Wananukul^{1,3}

¹Department of Medicine, Ramathibodi Hospital, Mahidol University, Thailand

²Department of Emergency Medicine, Ramathibodi Hospital, Bangkok, Thailand

³Ramathibodi Poison Center, Ramathibodi Hospital, Mahidol University, Thailand

Objective: Glutaraldehyde poisoning is rarely reported in previous literatures (1). This study aimed to describe and analyze the clinical characteristics and outcomes of the cases of glutaraldehyde poisoning in Thailand.

Methods: A retrospective cohort study of cases reporting glutaraldehyde poisoning from Ramathibodi Poison Center Toxic Exposure Surveillance System during a 1-year period (1st Jul 2017 - 30th Jun 2018) was performed.

Results: Fifty-nine glutaraldehyde (GA) poisoning cases were reported with median age of 35 years (1-77), 77.9% of which were male. All GA poisoning was from agricultural disinfectant containing glutaraldehyde as the main ingredient together with cationic detergent and/or formaldehyde. Most cases were from central region (32.2%). Oral route was reported in 93.2% of the cases (55 cases) and the remaining were two cases of inhalation and two cases of eye exposure. No dermal contact was reported. Reasons of poisoning were mainly due to accidental exposure (64.5%), either by misunderstanding or siphoning, while suicidal attempt accounted for the rest. Eye exposure resulted only in conjunctivitis. Inhalation exposure resulted in dyspnea and irritation of nasopharyngeal airway without pulmonary or systemic involvement. Oral exposure also caused local irritation of GI tract (78.2%). Esophageal and gastric necrosis without perforation was found by esophagogastroduodenoscopy in one case. We observed systemic involvement in 11 patients (20%) including fever (4 cases), metabolic acidosis (4 cases), acute kidney injury (2 cases), and acute hepatocellular injury (5 cases). Most cases received only supportive treatment and were fully recovered and discharged within one day. Two patients were intubated due to unresponsiveness. Death occurred in one case (1.7%) due to upper airway obstruction after oral ingestion.

Conclusions: Glutaraldehyde poisoning usually resulted in only local irritation. Some cases developed corrosive symptoms and systemic involvements including fever, metabolic acidosis, acute kidney injury, and acute hepatocellular injury. Death was reported to be due to upper airway obstruction.

References: (1) Agency for Toxic Substances and Disease Registry (ATSDR). 2017. Toxicological Profile for Glutaraldehyde. Atlanta, GA: U.S. Department of Health and Human Services, Public Health Service.