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Paraquat poisoning: mortality, clinical features, and treatment in Kerman province, Iran

Zohreh Oghabian[1], Alireza amirabadizadeh[2], Samaneh Nakhaee[2], Mohammad Rasool Shariatmadari[2], **Omid Mehrpour[2]**

[1]Department of Clinical Toxicology, Kerman University of Medical Sciences

[2]Medical Toxicology and Drug Abuse Research Center (MTDRC), Birjand University of Medical Sciences, Birjand, Iran

Objective: Paraquat is a contact herbicide that is very toxic for humans and most animals. There are few studies on paraquat poisoning in Iran, therefore we aim to describe the demographics, clinical characteristics, lethal dose and efficacy of treatments in paraquat poisoning in the Kerman province of Iran.

Methods: This study included 126 paraquat poisoned patients who were referred between 2006 and 2015 to Afzalipour Hospital, the main toxicology centre in the south-east of Iran. Clinical characteristics, lethal dose, efficacy of different treatments and outcome were collected.

Results: Of the 126 patients, 81 (63.6%) were discharged and survived. The mean dose of paraquat consumed by all patients was 117.9 mL. The highest number of deaths occurred in people presenting with respiratory distress followed by those with oral ulceration and those with excessive salivation. In all paraquat-poisoned patients, a dose of greater than 112.5 mL (approximately 33 mg/kg) predicted death with 86.2% specificity and 75.7% sensitivity. In patients receiving charcoal sorbitol, the lethal paraquat dose was greater than 137.5ml (approximately 39 mg/kg).

Conclusion: This study indicated that the effects of paraquat poisoning primarily depended on the consumed dose. In addition, the highest number of deaths occurred in people presenting with respiratory distress. These findings may provide more reliable information for physicians to allow better prediction of paraquat poisoning severity and prognosis.