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Clinico-epidemiological characteristics of oxalic acid (Prinso) poisoning in southern Sri Lanka: A retrospective analysis

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Objective: Self-poisoning of 'Prinso', a laundry detergent, has been reported increasingly in rural areas of the southern province of Sri Lanka. It is widely used and easily available in this region. The product, made by many small scale manufacturers, consists of 2 sachets of oxalic acid (~10 g) and potassium permanganate (~1 g). Both compounds exert a corrosive influence on the gastrointestinal system, and oxalic acid in particular causes hypocalcaemia and renal toxicity. The aim of this study is to find out clinico-epidemiological characteristics of Prinso poisoning and risk factors for adverse renal outcome.

Methods: We retrospectively reviewed the clinical data of 51 patients who were managed at Teaching hospital, Karapitiya, Sri Lanka following self-ingestion of Prinso from June 2015 to August 2017. Patients already having chronic kidney disease were excluded. The chi-square (χ^2) test was used to analyze the associations across multiple variables and a significance level of 5% was used for statistical inference.

Results: Mean age of study population was 27 years (95% CI; 23.7 - 29.8) and the majority were males (n=32; 62.7%). Early clinical manifestations were vomiting, abdominal and back pain and oliguria in particular was indicative of acute kidney injury (AKI). Clinical outcomes were categorized in to three groups; no adverse renal outcome (n=17), development of AKI which did not require intermittent haemodialysis (n=18) and AKI needed intermittent haemodialysis (n = 16). The amount of oxalic acid consumed had a significant (χ2; P=0.004) association with the three clinical outcomes. All who had >10 g of oxalic acid (n=14) developed AKI and more than 50% of them needed dialysis. Moreover, a majority (n=12; 60%) of the patients who had ingested <5 g of oxalic acid did not develop AKI. There was higher chance of developing AKI with delayed initial medical care; 62% presented within first 6 hours, 75% presented within 6-24 hours and 83% presented after 24 hours progressed to AKI. In addition, all hypercalcaemiac patients (n=3) developed AKI.

Conclusion: Majority of patients with Prinso poisoning developed AKI. The early clinical manifestations were abdominal pain, vomiting and back pain and oliguria was indicative of AKI. The amount of ingested oxalic acid was significantly associated with adverse renal outcome.