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Renal damage following self-poisoning with Chlorophenoxy herbicide [2-Methyl-4-chlorophenoxyacetic acid (MCPA)] – A case report

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Case Study: Intentional self-poisoning associated nephrotoxic acute kidney injury (AKI) is common in developing countries. Acute kidney injury has been reported following Chlorophenoxy herbicide [2-Methyl-4-chlorophenoxyacetic acid (MCPA)] with a case fatality rate of 5% in Sri Lanka.
A 49-year-old man was transferred to teaching hospital Peradeniya, Sri Lanka following suicidal ingestion of MCPA. On day 1, his serum creatinine level was 1.15 mg/dl. On the second day, it increased to 1.45 mg/dl and gradually decreased to 1.01 on day 7. However, blood urea nitrogen level was normal till day 2 and increased to 9.2 mmol/l on day 3. On admission serum creatine kinase was 172 U/L, peaked on day 2 (17674 U/L) and gradually decreased to 1589 U/L by day 6. Serum Ca^{2+} level was 0.24 mmol/l on day 1 and reduced to 0.11 mmol/l on day 2 and remained in the normal range till day 4. Serum magnesium level appeared in the normal range since admission till day 4. Serum lactate was high from day 1 (2.4 mmol/l) and peaked at day 2 (4.5 mmol/l) and remained high till day 3. Positive fluid balance was maintained throughout the hospital stay.
Ingestion of MCPA caused mild AKI and can be due to rhabdomyolysis and glomerular damage. As laboratory assays on tubular biomarkers were not available in our hospital, tubular damage was not confirmed.