

## **NO IMPROVEMENT IN CREATININE DESPITE DIALYSIS WHEN POISONED**

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The Jaffe reaction, commonly used method to measure serum creatinine (Scr), is not specific when interfering substances are present. The method involves reaction between Scr and picric acid in an alkaline medium. Other chemicals that react with picric acid can also lead to a measured increase in the Scr level. We report a case of poisoning where Scr levels appeared spuriously elevated and strangely continued to stay elevated (2.5mg/dl) after HD with slow resolution back to baseline (1mg/dl) over the next 10 days. The anion gap was normal and pt was clinically asymptomatic.

A healthy 27 yr-old male, presented complaining "I have been poisoned." Exam and review of systems were unremarkable. Pt was undergoing a divorce and his wife admitted to have given him industrial grade Valucraft® Prediluted Antifreeze as a drink. He consumed at least 6 oz. Ethylene glycol and diethylene glycol were 17% of this solvent.

Admitting lab studies revealed an elevated Scr of 1.5 mg/dl. Urine analysis did not reveal any crystals or casts. Scr increased to 2.2 mg/dl a few hours later and the patient was hemodialyzed as ethylene glycol ingestion was confirmed by history. However, even after HD the Scr did not improve. Toxicology screen was negative for aspirin, ethanol, methanol, isopropyl alcohol and ethylene glycol. Pt continued to be asymptomatic with good urine output. He was discharged home with close follow-up. His Scr decreased steadily and returned to baseline value of 1.0 mg/dl without any interventions. On further discussion with the manufacturer, we suspected that nitromethane was an unlisted ingredient in the ingested solvent which interfered with the measurement of Scr. The timeline of improvement in Scr fits with the half life of nitromethane. Although nitromethane is only 60 Daltons, it is presumed to have a large volume of distribution and may be difficult to dialyze. A more specific enzymatic method to measure Scr was not performed because of lack of information about this ingredient and its interference in the Jaffe reaction.

Elevation of Scr does not always indicate AKI. When interfering substances are suspected an enzymatic assay to measure Scr should be used. We recommend that in cases of ingestions, such assay should be a routine part of care.