

Alcohol Hand Sanitizer – An unusual cause for a medical emergency call.

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A 50 year old male patient with a known history of alcohol dependence was brought to ED by ambulance, having been found collapsed in a bus shelter. His co-morbidities included previous alcohol withdrawal seizures, previous overdose and pulmonary embolism. He was prescribed rivaroxaban, quetiapine, levetiracetam and escitalopram.

He initially had a GCS of 6 but this improved rapidly over the course of two hours to 15/15. At the time of the post take ward round it was thought he was well enough to be discharged home and the likely cause of his collapse had been alcohol intoxication. He remained in hospital due to social issues.

During his admission, the patient was caught imbibing from bottles of alcohol hand sanitizer on several occasions, each time associated with mild drowsiness.

On the fourth day of admission, a medical emergency call was put out as the patient was found in a collapsed state with a GCS of 5 (E2, V2, M1), and he was significantly hypotensive. ECG showed no major abnormality. Blood glucose was 7, blood ketones were not checked. A CT head was performed given the history of anticoagulants but showed no acute intracranial pathology.

Given the presumed diagnosis of alcohol intoxication, a blood ethanol concentration was sent which surprisingly came back as undetectable. Blood was also sent for urgent serum osmolality. The contents of the alcohol hand gel were reviewed and discussed with a national poisons information service advisor but none were thought to be likely to cause this clinical picture.

An ABG showed no evidence of acidosis. Serum osmolality was found to be high with a very high osmolal gap. Following discussion with a clinical toxicologist, urine was sent for a general toxicology screen (UPLC-TOF-MS) and specifically for a volatile alcohol screen.

The following day the toxicology screen results returned a very high isopropanol level. It was negative for other volatile alcohols including methanol. It was negative for GHB. Repeat urine toxicology the following day showed very high acetone levels.

He subsequently developed sepsis and was taken to ITU with ARDS. Blood cultures grew E.coli, attributed to insertion of a urinary catheter whilst unwell. This resulted in a prolonged ITU stay felt to have resulted from a complication of the intoxication.

Alcohol hand gel consumption is an uncommon but well-documented cause of intoxication. However, in the context of a reduced GCS it is important not to overlook other causes of reduced consciousness. Standard toxicology screens would not detect volatile alcohols. Isopropanol toxicity gives a classical picture of reduced conscious level, inebriation without detectable alcohol in the blood, hypotension and a high osmolal gap without acidosis. Acetone is a metabolite of isopropanol and is one cause of a high blood ketone reading.