Episode of Major Depression Refractory to Ethylene Glycol Poisoning Highlighting the Role of the Caribbean Poison Information Centre

The Editor

Sir,

Although not an uncommon occurrence in the United States of America (USA), there has been no reported case of ethylene glycol (EG) poisoning in the Caribbean. A fatal case is reported along with the introduction of a long awaited Caribbean Poison Information Network in Jamaica.

A 29-year old male schizophrenic ingested approximately 350 mls of EG in a suicide attempt. Besides being drowsy, his physical examination was unremarkable. He was started on oxygen by face mask, normal saline infusion and cardiac monitoring. Arterial blood gas analysis revealed a metabolic acidosis (pH 7.1) necessitating sodium bicarbonate therapy. Commercial ethanol was administered orally. Parenteral thiamine, pyridoxine, folic acid and magnesium were also given. Serum ethanol and ethylene glycol levels were not available. During admission he developed worsening metabolic acidosis, hyperkalaemia and renal impairment. He received peritoneal dialysis but died six days post admission.

Ethylene glycol is an odourless, colourless liquid found in antifreeze, coolant and some detergents and lacquers (1). Once ingested, EG is rapidly absorbed into the bloodstream and distributes evenly throughout the body tissues. Ethylene glycol itself is non-toxic, however 80% is metabolized to toxic end products in the liver (1). Recognition of EG poisoning is essential. Ideally, EG levels should guide therapy, however treatment should not be delayed because serum levels are not available. Both ethanol and fomepizole (4-methylpyrazole) compete with EG for the enzyme aldehyde dehydrogenase (1). This prevents the build-up of the toxic

metabolites and allows them to be excreted. The administration of thiamine, pyridoxine, folic acid and magnesium is important as these substances are co-factors which enhance conversion of EG to non-toxic compounds (1). Hypocalcaemia may develop but does not require correction unless symptomatic (1).

Ethylene glycol is a dialyzable substance (1). While peritoneal dialysis can be utilized, haemodialysis is considered more efficient. Clinical indications for haemodialysis include deterioration, significant metabolic acidosis and renal failure (1). Complete recovery is possible.

The Caribbean Poison Information Network was launched on May 13, 2005. This centre aims to make information on poisoning and drug toxicity readily available, increasing the general awareness of poisoning and the management of specific toxidromes. In addition, the poison centre will facilitate collection of data and generate useful statistics to guide public health policy decisions. A total of 55 sentinel sites will be created across the island and will allow clinicians and laypersons to access information. The University of the West Indies will house one such site.

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