[ID-P#099] TCA overdose with life threatening arrythmia

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Background: TCA toxicity has became a rarity since it has mostly been supplanted by SSRI in the treatment of depression. TCA poisoning however can still occur as it continues to be prescribed for depression or other indications like migraine and pain. TCA toxicity needs to be recognized early as emergent treatment can prevent or reverse hemodynamic compromise and resultant poor clinical outcome.

Case Summary: A 52 year old lady was found unconscious by husband with empty bottles of household bleach and medications – Tianeptine 12.5mg, T bromazepam 1.5mg, T clonazepam 2mg and T Zolpidem 10mg. She was intubated by the pre- hospital care team due to comatose state, hypoxia and hypotension. Upon arrival to our Emergency Department, she was in shock with severe metabolic acidosis. ECG showed idioventricular rhythm with heart rate of 50, wide complex QRS >300msec, and prolonged Qt. The patient was given 100mls $NaHCO_3$ 8.4% bolus over 30 minutes, with simultaneous fluid resuscitation and IVI noradrenaline infusion. The QRS duration narrowed to 180 msec and there was reduction in IVI noradrenaline dose. Another 100mls $NaHCO_3$ 8.4% was given, with close monitoring of the serum sodium, pH and HCO_3 level, as well as urine pH. Subsequent infusion of sodium bicarbonate was initated and the dose was titrated to QRS duration, hemodynamics and laboratory targets. Heart rate, hemodynamics and noradrenaline requirement improved and she was admitted to ICU. She had prolonged ventilation due to corrosive aspiration and chemical pneumonitis and later succumbed after 3 weeks in ICU.

Learning Points: This case report highlights the importance of recognizing TCA toxicity and initiating intravenous sodium bicarbonate therapy emergently in life-threatening arrythmias. It addresses supportive therapy like mechanical ventilation strategy, hemodynamics optimization and monitoring in critically ill patients with TCA overdose. It also discusses the uncertainties that exist in adjunctive therapies such as intralipids, lignocaine, hypertonic saline and magnesium suphate.