Chloral Hydrate

Chloral hydrate overdose can cause rapid CNS depression and dysrhythmias

Toxicity / Risk Assessment

- Chloral hydrate has a narrow therapeutic index
- Toxic dose is poorly quantified. Available as 100mg/ml
- >50mg/kg is associated with significant sedation
- >100mg/kg is associated with coma and dysrhythmias
- Co-ingestion with ethanol alters metabolism leading to prolonged clinical effects and greater toxicity

Clinical features:

- Onset of symptoms is rapid and within 30 minutes
- CNS: sedation, ataxia, nystagmus, dysarthria, coma
- CVS: hypotension + atrial and ventricular dysrhythmias (chloral hydrate sensitises myocardium to catecholamines)
- GIT: nausea and vomiting, direct corrosive injury (stridor, drooling, dysphagia, haematemesis, abdominal pain)
- Hypothermia
- May develop transient hepatorenal dysfunction
- Withdrawal: abrupt discontinuation after use > 1-2 weeks can lead to withdrawal (seizures, delirium and psychosis)

Management

- Manage in a resuscitation area with cardiac monitoring
- Management is primarily supportive. Intubation may be required for airway protection.

Decontamination

- AC is not indicated due to chloral hydrate's rapid absorption

Hypotension

- **Fluid**: Initially load with 10-20 mL/kg IV crystalloid
- *Hypotension not responding to fluids should be discussed with a clinical toxicologist*
- Catecholamine-based inotropes are relatively contraindicated as they increase risk of dysrhythmias
- Echocardiography may be helpful to characterise shock and aid choice of inotrope

Dysrhythmias

- Beta-blockers are first line for tachyarrhythmias as they reduce myocardial catecholamine sensitivity
- IV esmolol 500 mcg/kg bolus over 1 minute and then 50-200 mcg/kg/minute
- Magnesium can be given for Torsades des Pointes (TdP), but may be ineffective. *See separate QT interval and TdP guideline*

Corrosive Injury

- Symptomatic patients should be kept NBM and discussed with the local endoscopy service

Disposition

- Patients who are asymptomatic at 4 hours can be discharged pending mental health assessment