Clonidine and Guanfacine

Clonidine and guanfacine overdose can cause significant CNS and CVS depression. Children are more susceptible to toxicity.

Toxicity / Risk Assessment

Clinical effects correlate poorly with ingested dose.

Ingestions >10 mcg/kg are associated with significant toxicity especially in children & adolescents

Ingestion >1-2 tablets is potentially life-threatening in a child

Onset of toxicity: within 2 hours, may be delayed in guanfacine exposure

Duration of toxicity may be prolonged with guanfacine exposure due to modified-release preparation

In large ingestions, toxicity often lasts > 24 hours

Clinical features:

- CNS: drowsy, ataxia, miosis, coma (the absence of of miosis does not exclude exposure)
- CVS: initial transient hypertension, bradycardia, ↓BP, AV block, brady- arrhythmias postural hypotension
- Respiratory: bradypnoea, apnoea
- Others: hypothermia may occur

Management: Primarily supportive. Intubation and ventilation may be required in severe toxicity

Decontamination: Activated charcoal (AC) is generally NOT indicated due to rapid onset of CNS depression. AC can be administered via NG tube in patients requiring intubation following massive ingestion.

Bradycardia - treatment is rarely needed unless concurrent hypotension or reduced end-organ perfusion

Atropine: 0.6 mg IV boluses 5-minutely up to 3 doses (child 0.02 mg/kg boluses)

Bradycardia may outlast CNS depression and may persist > 48 hours (7 days with guanfacine exposure)

Hypotension

- If bradycardia also present, treat with atropine (0.6 mg IV boluses up to 3 doses, child 0.02 mg/kg boluses)
- Administer 10-20 mL/kg IV crystalloid

If cardiovascular compromise persists despite atropine and IV fluid, commence an adrenaline infusion and discuss with a clinical toxicologist

Hypertension - usually transient and resolves spontaneously. No treatment is generally required.

Naloxone - is not considered a routine part of the management of clonidine toxicity

Disposition

- Discharge pending mental health assessment if asymptomatic and well (including no significant postural hypotension) 6 hours post ingestion (12 hours following exposure to guanfacine)
- Admit all symptomatic patients for at least 12 hours or until symptoms resolve
- Patients with severe CNS or CVS depression should be managed in HDU/ICU
- Exclude significant postural hypotension and ensure ability to safely mobilise prior to discharge