

DRUG OVERDOSE

Common poisoning seen in our unit:

Paracetamol, salicylate, benzodiazepines, alcohol, dettol, other psychiatry drugs (e.g. SSRI), rat poisoning, charcoal burning is quite fashionable...

ICU admission criteria for overdose

- + Intubated patients
- + Uncontrolled seizures
- + Coma
- + Persistent hypotension
- + Malignant tachyarrhythmias

Management

- + resuscitation
secure airway, ensure breathing, support haemodynamics, stop seizures etc...

- + evaluation
history
clinical manifestations
lab findings – acidosis, anion gap, osmolar gap
 specific drug levels – paracetamol, salicylate, ethanol
 urine for toxicology – benzodiazepines, amphetamines
 (repeat drug levels if patient present in the early hours of poisoning)
ECG clues – prolonged QT interval in TCAs overdose

- + prevent absorption (doubtful value if more than 4 hours after ingestion)
 1. gastric lavage
 - intubate for airway protection in the obtunded
 - contraindicated in caustic ingestion, petroleum ingestion
 2. activated charcoal
 - intubate for airway protection in the obtunded
 - drugs not well bound to charcoal (caustics, cyanide, alcohol, heavy metals, lithium, iron, bromides etc.)
 - repeated doses of charcoal enhance the elimination of certain drugs (salicylate, TCA, diazepam, digoxin, theophylline etc.)
 usual dose 50g Q4H

- + increase elimination (if applicable)
- + specific antidote (if any)
- + general supportive treatment
- + **refer to “The 5 min toxicology consult” in our ICU library**

Paracetamol

✚ Toxic dose

- Hepatotoxicity seen at dose > 7.5 g (>150mg/kg)
- Fatalities seen in ingestion of > 13 g
- Dose may be less in high risk individuals with toxicity reported at 4-6g
 - Chronic alcoholics
 - Pre-existing liver disease
 - Habitual or sequential overdosers
 - Malnutrition
 - Individuals on certain drugs due to cytochrome P450 induction – alcohol, phenytoin, phenobarbitone, carbamazepine, omeprazole, isoniazid, rifampicin

✚ N-acetylcysteine

Indications

- Patients with potentially hepatotoxic doses
- All patients with a history of ingestion and evidence of severe toxicity (altered liver function tests, prolonged INR, renal failure, acidosis, hypoglycaemia or fulminant hepatic failure) regardless of what time they present post-ingestion
- Rumack-Mathew Nomogram is useful in predicting hepatotoxicity in fit patients with a clear history of time of ingestion: the plasma level \geq 4 hours ingestion is read off the nomogram
- If in any doubt, administer NAC; it is safe up to 24 hours after ingestion and there is evidence that late administration is associated with a decrease in hepatic encephalopathy and mortality

Dose: 150mg/kg over 15 minutes stat

50 mg/kg over 4 hours

100 mg/kg over 16 hours

Rumack-Mathew Nomogram

