Other Drugs in Overdose

ACEI

Generally benign in overdose. May cause mild-mod ↓BP responsive to fluid therapy alone. Supportive care & observation for min 4hr.

Benzodiazepines & Zopiclone/Zolpidem

Bind at CNS inhibitory $GABA_A$ receptor complex at different sites. Enhances opening of assoc Cl- channel. Tolerance occurs rapidly with downregulation of binding & receptor fn. Withdrawal (agitation, insomnia, psychosis, seizures) occurs with rapid cessation. Common OD but generally excellent outcome if CNS depression treated supportively. CNS sedation, but rarely profound coma. May cause snoring & obstructive apnoea requiring ventilatory support. In very large OD (esp alprazolam) may cause hypothermia, bradycardia and hypoBP. Severity of OD highly variable often determined by tolerance & co-ingested CNS depressants (e.g. EtOH). Zolpidem is only active at $GABA_A$ receptors with α1 subunits so little muscle relaxant & anticonvulsant effect). It can cause miosis & is implicated in psychotic reactions at therapeutic doses. **Flumazenil** may precip withdrawal, seizures (esp if co-ingested with pro-convulsant) or prolong LOS (as reduces natural tolerance). Reserved for: diagnostic tool (but only if negligible risk of seizure/arrhythmia), reversal of iatrogenic sedation, or to avoid intubation if necessary.

Buspirone

Anxiolytic that is also a partial agonist at serotonin $5HT_{1A}$ receptors. Risk of serotonin toxicity when combined with other serotoninergic drugs (e.g. SSRI, MAOI).

Chloral Hydrate

In OD can cause lethargy, ataxia, gastric necrosis (AC is **CI** as caustic), ↓RR, coma, ↓BP & fatal arrhythmias (incl VF, TdP, PVCs, bigeminy), generally in OD>200mg/kg, but as low as 3g. Active metabolite trichloroethanol causes the sedation & myocardial irritability (can use βB & beware catecholamines for ↓BP or agitation post-OD). It appears to have rapid & prominent tolerance.

Bupropion

Antidepressant inhibitor or dopamine & noradrenaline uptake. Used also to suppress nicotine cravings as XR prep. 1st pass metab. Peak ~2h. >80% protein-bound. High V_d. $T_{\frac{1}{2}}$=10h. Metab by liver CYP2B6 & ?inhibits CYP2D6. High risk of seizures (delayed by 6-18h) and mild-mod anticholinergic effects following any OD. Cardiotoxicity (NaBlockade - ↑QRS) if large OD (>9g). Good supportive care and early/adequate use of **BDZ** is usually sufficient. **Bicarbonate** for cardiotoxicity. **Charcoal** PO if >4.5g and alert <2hr post-OD or via NG after intubation if OD>9g. WBI probably **CI** due to risk of seizures, unless intubated.

Mirtazepine

3rd generation NSSI (blocks a_2 & $5HT_{2\ \&\ 3}$, agonist at $5HT_{1A}$ & H1) antidepressant follows a benign course in OD. Mild ↑HR, drowsiness, anxiety & confusion. May be miosis. Unlikely to cause serotonin toxicity.

Hydrocarbons

Whether ingested or inhaled can cause rapid N&V, CNS depression, seizures and rarely dysrhythmias. Aspiration → cough, chemical pneumonitis. Ingestion of eucalyptus oil≥10ml (child 5ml) assoc with seizures/coma always within 2hr. Toluene renal toxic. CCl_4 renal & hepatic toxic. Remove clothes & wash skin. GI decontamination **CI**. Supportive therapy with attention to dysrhythmias, seizures & respiratory support.

Local Anaesthetic

Main concerns are systemic effects with IV/IA injection at lower doses than with excessive infiltrative doses such as lignocaine >3-5mg/kg (>7mg/kg + adrenaline), bupivacaine >2mg/kg (>3mg/kg + adrenaline). Oral ing <6mg/kg safe.

Adverse effects:

- Allergic/Dermatitis - esp esters metabolise to PABA
- Neurological then CVS effects (see chart).
  Bupivacaine: less ↓safety margin between first CNS and CVS effects, VF is a major risk, & CVS collapse may be refractory.
- Methaemoglobinaemia (prilocaine - esp. young infants)

Mx: Resus (intub if CVS signs), fluids for hypoBP, **sodium bicarbonate** for VT, **BDZ** for seizures.

Antidotes: **Lipid emulsion** for arrest or refractory ↓CVS. **Methylene blue** for metHb.