SSRI Antidepressants

Overview

E.g. citalopram, escitalopram, fluoetine, fluvoxamine, paroxetine & sertraline.
Generally benign in most ODs. Citalopram can ↑QTc though torsades is rare.

Toxic mechanism

Selective 5HT re-uptake inhibitors (citalopram & escitalopram most potent). $5HT_{2a}$ receptors most important in toxicity, not $5HT_1$ the more therapeutic receptor in depression.

Toxicokinetics

Rapidly abs. Large Vd 5-20L/kg. Highly protein bound. Metabolised by liver cyt P450 to less active and water-soluble metabolites. Elimination $T_{\frac{1}{2}}$ ~3 days for fluoxetine with active metabolite of almost 2 weeks. Paroxetine & sertraline have much shorter $T_{\frac{1}{2}}$. These drugs may inhibit cytochrome P450 2D6 (all), 3A4 and 2C (fluoxetine and sertraline) enzymes.

Clinical features

Often asymptomatic. Minor GIT symptoms, ataxia CNS depression.
Mild serotonin syndrome in ~16% (anxiety, tremor, ↑↓HR, mydriasis)
Seizures in <4%
Rarely cardiac dysrhythmias (wide complex bradycardia & TdP) with citalopram

Investigations

Screening: ECG, paracetamol, BSL
Specific: Serial ECG & cardiac monitoring in (es)citalopram OD for at least 8hr if OD>600mg or 12hr if OD>1g.
Other: UEC/CMP if ↑QTc

Risk assessment

Generally benign. ~50% prolonged QT with (es)citalopram. Likelihood of serotonin syndrome greatly increased if co-ingestion with other serotonergic agents.

Management

Resus: ABCs as needed (rare).
Supportive Care:

- Treat seizures mild serotonergic symptoms with BDZs
- Manage full serotonin syndrome if occurs (see Toxidromes)
- Treat ↑QTc-associated dysrhythmia e.g. TdP (correct hypoxia, hypoK^+ and give **$MgSO_4$** or, if HR<100, give **isoprenaline** 1-10μg/min IV infusion or overdrive pace to 100-120bpm)

Decontamination: Activated charcoal PO indicated if within 2hrs of >600mg (es)citalopram OD or 10-20 tabs of other SSRIs.

Disposition

If clinically well & normal ECG at 12hrs → d/c, otherwise admit for obs/cardiac monitoring.
ICU if serotonin syndrome.