Serotonin (5HT) Toxicity

Serotonin toxicity is often only mild to moderate in severity, but severe toxicity can be life-threatening, primarily due to complications from hyperthermia

Clinical features:

Triad of mental status changes, autonomic stimulation and neuromuscular excitation

Mild: tremor, tachycardia, inducible clonus (ankle, ocular), hyperreflexia

Moderate: agitation, sustained clonus, tachycardia, hyperthermia (>39 deg C)

Severe: severe hyperthermia, muscle rigidity, sustained clonus and seizures

Mechanisms of ↑5HT (more than one may apply)

-Inhibition of 5HT metabolism (MAOIs)

- Prevention of 5HT reuptake (SSRIs, TCAs, tramadol)

- 5HT release (cathinones, MDMA, amphetamines)

Severe Serotonin Toxicity usually results from a combination of >1 mechanism of 5HT excess

Management

Supportive care is the mainstay of management: *IV hydration, titrated benzodiazepine sedation, discontinuation and avoidance of serotonergic agents, aggressive treatment of hyperthermia*

Discuss cases with severe hyperthermia OR those involving a MAOI with a clinical toxicologist

Hyperthermia

Aggressive cooling (if T >38.5): along usual treatment lines, may require intubation and paralysis

Anti-5HT agents (NOT indicated in minor toxicity)

Chlorpromazine: 25 mg IV in 1000 mL 0.9% N/Saline over 1 hour

Cyproheptadine: administered orally or via NGT. 12 mg loading dose and repeat 2 mg 2 hourly until adequate therapeutic response is achieved (maximum 32 mg over 24 hours)

Olanzapine: 10 mg SL/PO

Disposition:

Toxicity usually resolves over 24-48 hours. Discharge when symptomatically well.

Hunter Serotonin Toxicity Criteria: