

Serotonin syndrome: Drug related fever

Serotonin syndrome is a clinical constellation of autonomic instability, mental status change, and increased neuromuscular tone caused by excessive stimulation of 5-HT<sub>1A</sub> and 5-HT<sub>2A</sub> receptors. It is typically caused by combining two or more serotonergic medications. Historically, MAOIs caused most cases, but SSRI interactions have become far more prevalent.

**Pearl:** Commonly used SSRIs include **fluoxetine, sertraline, paroxetine, fluvoxamine, citalopram**, and **escitalopram**. In a study of 469 isolated SSRI ingestions, **sertraline, paroxetine, and fluvoxamine** were most likely to cause a serotonin syndrome. SSRIs rarely cause significant toxicity in isolated ingestions. Search for coingestants in any patient with significant symptoms

**Clinical findings:** spontaneous or inducible muscle clonus; ocular clonus; agitation; diaphoresis; tremor; hyperreflexia; muscle rigidity; and **hyperthermia**. The syndrome can manifest a wide range of toxicity, and prognosis correlates with clinical findings. Patients with severe disease may develop **acute hyperthermia (core temperature >41.1°C)**, hypertension, tachycardia, agitated delirium, and muscle rigidity.

**Rx:** The broad goal of management should be to provide **supportive care** and to minimize potentially unneeded and harmful interventions. **Avoid serotonin agonists (e.g. meperidine)**. Benzos for seizure and activated charcoal for gut decontamination are acceptable measures.

Question:

A 44 year-old male taking fluoxetine develops fever of 41.5 C. He seems agitated, with tremors, shivering, hyperreflexia and diaphoresis. The best approach is to:

- a. Consider low dose meperidine for shivering
- b. Request procalcitonin level
- c. Search for coingestants
- d. Start antibiotics

Answer: C - SSRIs rarely cause significant toxicity in isolated ingestions. Search for coingestants in any patient with significant symptoms