



St. Vincent's Hospital, Melbourne
Australia



ST VINCENT'S
HEALTH AUSTRALIA

Serotonin Syndrome

Dr. Ritchie Gupta
Addiction Medicine Advanced Trainee
Department of Addiction Medicine

UNDER THE STEWARDSHIP OF MARY AIKENHEAD MINISTRIES

Definition



Serotonin Syndrome is:

collection of symptoms caused by elevated CNS serotonin levels typically caused by medications
combination of medications
medications and non-prescribed substance(s)
recently started or increased doses of serotonergic drugs
herbal supplements

Diagnosis

Clinical diagnosis – detailed history, onset (<24 hours), quick resolution

DDx –

NMS - > 24 hour onset, bradyreflexia, slow resolution

Anticholinergic toxicity - hyperthermia, agitation, mydriasis, dry membranes, urinary retention, normal reflexes

Symptoms

Cognitive:

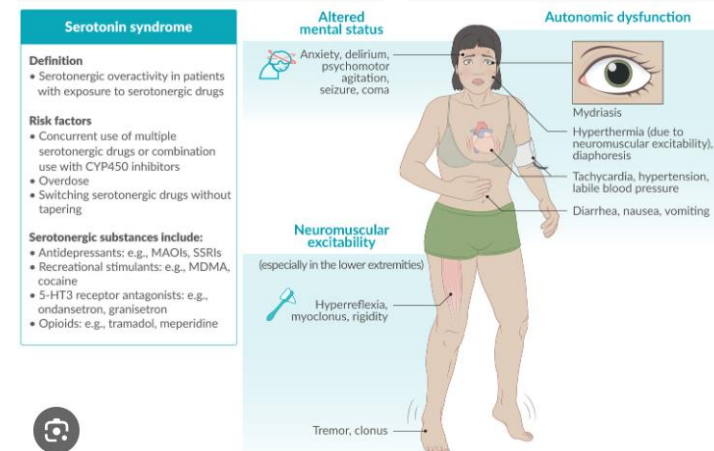
- headache, agitation, hypomania, confusion, hallucinations, coma

Autonomic:

- shivering, sweating, hyperthermia, vasoconstriction, tachycardia, nausea, diarrhoea

Somatic:

- myoclonus, hyperreflexia (clonus), tremor, seizure



A non-exhaustive list

Increase serotonin release

cocaine, amphetamine, MDMA, mirtazapine



Impair serotonin release

tramadol, SNRI, SSRI, TCAs, ondansetron, bupropion



Increase sensitivity of receptors

lithium



Common situations

- **Antidepressant + migraine medication**
- **Antidepressant + opioid**
- **Intentional OD**

One drug may be enough.....

Management

Treating serotonin syndrome is primarily done by recognising the symptoms and treating quickly.

- 1. Cease all serotonin affecting medications immediately**
- 2. Supportive care**
- 3. If autonomically unstable (hypertensive, tachycardic) – esmolol**
- 4. Consider benzodiazepines if there is evidence of clonus**
- 5. Consider the use of serotonin antagonists such as cyproheptadine**
- 6. HDU/ICU in severe cases**

Prognosis

- Most patients with moderate to severe symptoms need admission
- Most cases resolve within 24 hours
- Favourable prognosis once offending medication ceased

Questions or Comments?
