



Serotonin Syndrome as a Result of Combining an SSRI and a Common Anti-Tussive in an Adult Woman

Ahmed Salous DO, Bryce Warr DO, Molly Trowbridge MD
 Texoma Medical Center

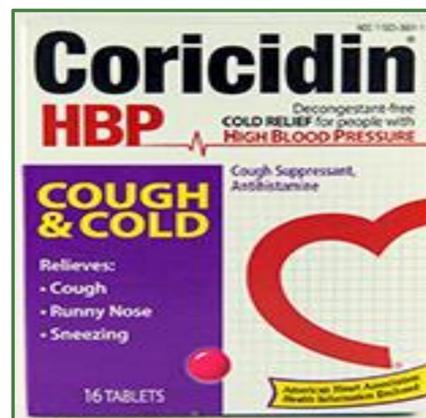


BACKGROUND/INTRODUCTION

Serotonin syndrome – a combination of autonomic hyperactivity, hemodynamic changes, neuromuscular derangements, and changes in mental status – often goes unrecognized. Serotonin syndrome requires a thorough history, physical exam and laboratory findings for diagnosis. Combinations of serotonergic medications or supratherapeutic doses of these medications is theorized to be the leading cause. However, while serotonin toxicity is a recognized cause of drug-induced altered mental status, data is limited on the prevalence, etiology or treatment. Following is a case highlighting the need to recognize possible adverse drug effects of commonly prescribed SSRIs especially in combination with over-the-counter (OTC) anti-tussives. In particular, our patient was taking a therapeutic dose of Zoloft (Sertraline) in Combination with Coricidin (chlorpheniramine/dextromethorphan). This combination lead to an acute presentation of Serotonin Syndrome which will be described.

Serotonin Syndrome/Toxicity is the result of an increase in Serotonin in select areas of the central nervous system which results in a presentation typically consisting of a triad of altered mental status, neuromuscular effects and autonomic hyperactivity. Common signs/symptoms as well as the most common offending agents are listed in the images below. Unfortunately, the incidence of serotonin syndrome is difficult to identify as there is no specific in the International Statistical Classification of Diseases and the US National Poison Data System does not specifically track serotonin toxicity. However, antidepressants as a category are listed in the top 5 for total exposures and deaths.

Treatment of Serotonin Syndrome is largely supportive in nature. Identify the offending agent and either decreasing the dosage or discontinuing are key. Monitoring for complications is necessary and our patient developed rhabdomyolysis as a complication.



Signs/Symptoms	%
Hyperreflexia/Clonus/Myoclonus	60%
Agitation	33%
Delirium	27%
Coma/CNS Depression	25%
Rigidity	14%
Seizures	14%
Hallucinations	10%
Tachycardia (HR>140 bpm)	25%
Hypertension (SBP >200 or DBP >120)	7%
Hyperthermia (T>105)	3%

CASE

- An adult female developed serotonin syndrome following co-administration of dextromethorphan and sertraline.
- The patient was a 29 year old woman with a history of depression and post-traumatic stress disorder as a Navy veteran. She was admitted to the hospital for agitation, tachycardia, palpitations and myoclonus. She also admitted to new onset numbness and tingling of her lower extremities.
- The patient had a history of Coricidin (chlorpheniramine/dextromethorphan) abuse and was prescribed Sertraline, at normal dosage, for depression. It was discovered, that she had not revealed her use of Coricidin with her outpatient psychiatrist.
- She stated that the Coricidin was used to “help numb my feelings.” Two weeks prior to her hospital presentation, her dose of sertraline was increased (normal dosing) due to continued depression.
- At presentation in the emergency room, a complete blood count and comprehensive metabolic panel were grossly normal (see below).
- A urinalysis was negative, a urine toxicology screen was positive for PCP and a creatinine kinase was elevated. (The positive PCP result was believed to be a false positive from dextromethorphan use.)
- An EKG revealed sinus tachycardia with a rate of 124 bpm. A chest xray and troponins were negative.
- She was diagnosed with serotonin syndrome and rhabdomyolysis as a result of combination of SSRI and dextromethorphan.
- After receiving IV fluids and IV Lorazepam in the emergency room, dextromethorphan and sertraline were discontinued resulting in the resolution of her rhabdomyolysis, clonus and tachycardia following additional IV fluids.
- She was monitored for 48 hours and was ultimately discharged home.

Vital Signs
T- 37.1
HR- 124
RR- 22
BP- 150/93
O2 Sat- 98%

Labs	
WBC- 11.5	Glu-72
RBC- 4.78	Na- 143
Hgb- 13.9	K- 4.1
Hct- 41.5	Cl- 106
MCV- 86.8	Co2-26
MCH- 29.1	Agap- 15.1
MCHC- 33.5	BUN- 13
Platelets- 335	Scr- 1.0
	Ca- 8.9
Lactic acid- 2.1	
CK- 1,048	

RESULTS

Recognition of the possible serotonergic effects of high doses of dextromethorphan, along with physical exam findings and lab results, enabled the patient to be appropriately diagnosed and treated.

CONCLUSION/DISCUSSION

This case presents a rarely reported effect of serotonin syndrome resulting from combination of medications commonly prescribed. A PubMed literature search yielded only three other cases reported similar to this one. Clinicians should recognize that OTC antitussives such as dextromethorphan – which contains pro-serotonergic properties when taken in excess – in combination with normal therapeutic doses of selective serotonin reuptake inhibitors such as sertraline, can result in serotonin syndrome. Furthermore, this case emphasizes the need for appropriate counseling for patients when prescribed serotonergic medications. This counseling should include caution with co-administration of OTC medications. Lastly, prescribers need to be aware of any and all medications including over-the-counter products and any concern for abuse.

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