

Psychosis With Use of an Herbal Chinese Slimming Product

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Sibutramine was previously used in the United States and Europe for long-term obesity management.¹ However, in 2010, the drug was discontinued in the United States due to an increased risk of cardiovascular events in patients with a history of heart attacks and strokes.² Psychiatric side effects such as panic attacks, depression, mania, and, in some circumstances, psychosis were reported.³ Nevertheless, sibutramine remained a key ingredient in several Chinese herbal weight loss products in the United States.³ Some case reports suggest that an underlying bipolar disorder may be present for psychotic features to occur in a person taking these weight loss pills.⁴ However, we present a case of psychosis in a patient taking a Chinese herbal appetite suppressant who did not have an underlying mood disorder or abnormal laboratory and urine drug screen results that could cause psychiatric symptoms.

Case Report

The patient was a 46-year-old woman, with self-reported past psychiatric history of borderline personality disorder and no known psychotic episodes, who presented to the emergency department (ED) via ambulance for auditory hallucinations and paranoia. She did not make eye contact and appeared guarded during the initial assessment. Her affect was anxious and labile, as she unexpectedly became very tearful throughout the conversation. Her thought process was tangential, and her thought content was paranoid and delusional. She was perseverating about people in the apartment unit above her whom she believed hacked into her phone. The patient endorsed hearing the voices of these individuals talking

about her when she was in her apartment.

Her vital signs were within normal range, and her urine drug screen was negative. Her complete blood count was notable for a hemoglobin level of 16.8 g/dL (12.3–15.3 g/dL) and a slightly elevated white blood cell count of $5.57 \times 10^3/\mu\text{L}$ ($4.4\text{--}11 \times 10^3/\mu\text{L}$). The comprehensive metabolic panel revealed a mild hyponatremia of 133 mmol/L (135–146 mmol/L) at the time of presentation, with an immediate repeat value of 135 mmol/L. Her thyroid-stimulating hormone levels were within normal limits. Magnetic resonance imaging of the brain with and without contrast revealed no abnormality. She ultimately reported using an herbal appetite suppressant that she recently bought online from China (“Queen Slimming”), which has had reports of containing sibutramine; however, we were unable to independently confirm the ingredients of the patient’s herbal slimming tea. Sibutramine received a score of 6 on the Naranjo scale,⁵ which means that an adverse drug reaction is probable.

She was started on olanzapine 5 mg nightly, and after 2 doses, she was thought to be at her baseline level. Due to the resolution of her symptoms and the patient’s preference to not be on an antipsychotic, we discontinued olanzapine. She continued to be symptom free without medication upon follow-up.

Discussion

Our patient presented to the ED with unexplained psychosis with noncontributory laboratory results and imaging. After extensive questioning, the patient revealed that she had recently started an herbal slimming medication. Per available literature, herbal slimming

medications often contain sibutramine, as about 84.9% of adulterated dietary weight loss supplements contain sibutramine.^{1,6} A study⁷ found sibutramine in about 26% of weight loss dietary supplement samples that were purchased online. Several mechanisms could potentially explain sibutramine’s utility as an antiobesity drug, such as its selective inhibition of the presynaptic reuptake of serotonin and norepinephrine in the brain or its ability to increase levels of anorexigenic neuropeptides such as leptin, a hormone responsible for suppressing appetite.¹ The mechanism for sibutramine-induced psychosis remains poorly understood. It is thought that the increased levels of serotonin and norepinephrine could potentially contribute to the hyperactive state found in psychotic patients.⁸

In 2016, the US Food and Drug Administration advised against using “Queen Slimming Soft Gel” products specifically because they contained sibutramine. However, this warning only addressed the product’s cardiovascular side effects and did not mention anything about psychosis.² Other weight loss agents, such as phentermine, ephedra, and lorcaserin, have been shown to cause psychosis as an adverse side effect and involve increased serotonin levels and norepinephrine.⁹

Once substance-induced psychosis was identified as the leading differential diagnosis, our patient was instructed to stop taking the herbal slimming supplement because it may have been contaminated with unknown substances, such as sibutramine, which have been known to induce psychiatric symptoms. The patient was given low-dose olanzapine, and her symptoms resolved rapidly after only 2 doses. While there is no set treatment method for treating

sibutramine-induced psychosis, experiments in rats have shown sibutramine and olanzapine have opposing effects on each other.¹⁰ Olanzapine is an antagonist of 5-hydroxytryptamine and α -adrenergic receptors, among others.¹⁰ This mechanism could also explain why olanzapine is commonly associated with weight gain as an adverse effect.¹⁰

Conclusion

Psychosis is not a well-known side effect of herbal slimming products. However, several cases have been reported of psychotic episodes after the recent ingestion of pills containing sibutramine, a discontinued antiobesity drug, as a key ingredient.^{1,3} It is essential to highlight this correlation between herbal products containing sibutramine and psychosis, as it is uncommon and not well known by health care providers.

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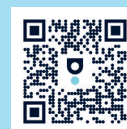
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References

- Chen SPL, Tang MHY, Ng SW, et al. Psychosis associated with usage of herbal slimming products adulterated with sibutramine: a case series. *Clin Toxicol (Phila)*. 2010;48(8):832–838.
- US Food and Drug Administration. Public notification: queen slimming soft gel contains hidden drug ingredient. Accessed June 21, 2023. <https://www.fda.gov/drugs/medication-health-fraud/public-notification-queen-slimming-soft-gel-contains-hidden-drug-ingredient>
- Chong CSY. Psychosis related to the use of sibutramine disguised as over-the-counter herbal weight loss remedies: a report of two patients. *East Asian Arch Psychiatry*. 2010;20(4):186–189.
- Waszkiewicz N, Zalewska-Szajda B, Szajda SD, et al. Sibutramine-induced mania as the first manifestation of bipolar disorder. *BMC Psychiatry*. 2012;12:43.
- Naranjo CA, Busto U, Sellers EM, et al. A method for estimating the probability of adverse drug reactions. *Clin Pharmacol Ther*. 1981;30(2):239–245.
- Muschiatti L, Redko F, Ulloa J. Adulterants in selected dietary supplements and their detection methods. *Drug Test Anal*. 2020;12(7):861–886.
- Hachem R, Assemet G, Martins N, et al. Proton NMR for detection, identification and quantification of adulterants in 160 herbal food supplements marketed for weight loss. *J Pharm Biomed Anal*. 2016;124:34–47.
- Araújo JR, Martel F. Sibutramine effects on central mechanisms regulating energy homeostasis. *Curr Neuropharmacol*. 2012;10(1):49–52.
- Jo HS, Wang SM, Kim JJ. Recurrent psychosis after phentermine administration in a young female: a case report. *Clin Psychopharmacol Neurosci*. 2019;17(1):130–133.
- van der Zwaal EM, Janhunen SK, Luijendijk MCM, et al. Olanzapine and sibutramine have opposing effects on the motivation for palatable food. *Behav Pharmacol*. 2012;23(2):198–204.

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