

A Case of Psychosis Associated With Pai You Guo Slimming Capsules Containing Sibutramine

To the Editor: Sibutramine is a potent serotonin-norepinephrine reuptake inhibitor that was approved by the US Food and Drug Administration (FDA) in 1997 for the treatment of obesity.^{1,2} In 2010, the FDA issued a voluntary withdrawal of the drug due to concerns over adverse cardiovascular effects.^{3,4} Despite this, sibutramine continues to be found in herbal slimming products sold over the Internet.⁵⁻⁹

Pai You Guo is an over-the-counter herbal slimming product manufactured in China that is adulterated with sibutramine and phenolphthalein, a suspected carcinogen.¹⁰ While the cardiovascular side effects of sibutramine have been well characterized,¹ there have been few reports of the neuropsychiatric sequelae of its use.

We report a case of a woman who experienced an acute psychotic episode triggered by Pai You Guo slimming capsules.

Case report. Ms A, a 27-year-old white woman with no significant medical history, was brought to the emergency department by her husband because of a depressed mood with bizarre, paranoid behavior for 6 days. She had no history of psychiatric illness, neurologic disturbance, or substance use before this admission. She was subsequently admitted to the psychiatric unit for manifesting bizarre behavior in the emergency department (disturbing other patients and attempting to lock herself in an imaging room). Laboratory test results (complete blood count, liver function tests, kidney function tests, blood glucose level, serum electrolyte test, thyroid function tests, urinalysis, urine toxicology screen, blood alcohol level, and pregnancy test) showed no significant abnormalities.

Further history revealed that Ms A had been taking Pai You Guo slimming capsules daily for the past month for weight loss. She experienced depressed mood, insomnia, fatigue, and paranoid delusions that began 1 week before admission. There was no family history of psychiatric illness, and she took no other medications or herbal supplements before admission.

Upon psychiatric assessment, Ms A was awake, alert, and oriented to person, place, and time but was irritable, isolative, paranoid, and suspicious of staff and displayed a blunted affect. She denied auditory or visual hallucinations and suicidal or homicidal ideations. She was started on treatment with risperidone 0.5 mg twice daily and subsequently showed a rapid improvement of psychotic symptoms. After 2 days, her paranoid delusions and bizarre behavior had improved. Because of her rapid response to therapy, risperidone was discontinued, and she was discharged with strong family support and the recommendation to stop taking her Pai You Guo diet pills. The patient did not return for follow-up.

Initially synthesized as an antidepressant, sibutramine exhibits serotonin-norepinephrine-dopamine reuptake inhibition properties.^{2,5,11} There have been infrequent case reports associating sibutramine use with psychiatric illnesses, including psychosis,^{6,7,12-18} mania,¹² and panic attacks.¹⁹ Although a number of mechanisms involving dopamine have been proposed,⁵ no research has conclusively elucidated the psychotropic effects of sibutramine.

Nevertheless, there is evidence to suggest a causal relationship between sibutramine use and manifestation of acute psychosis. The ability of sibutramine to block dopamine reuptake can result in

increased synaptic concentrations of dopamine. With regular dosing of sibutramine, this could potentially lead to psychotomimetic effects, consistent with the dopamine hypothesis of psychosis.¹⁶

Our patient was treated for substance-induced psychosis. The diagnosis was suggested by the temporal relationship associated with herbal supplement use and onset of psychosis, as well as a decrease in psychotic symptoms following cessation of the herbal supplement. Ms A's symptoms resolved after a brief course of antipsychotic medication, with no recurrence after discontinuation of the medication. Because she did not return for follow-up, we could not assess the long-term response to therapy. The possibility remains that her rapid improvement in mental status could have been simply due to cessation of the herbal supplement rather than a response to antipsychotic therapy.

This case emphasizes the requirement to obtain an accurate medication history. While further studies are needed to elucidate the psychotropic effects of sibutramine, we suggest that physicians should inquire about the use of herbal supplements and slimming products and be aware of psychotic symptoms precipitated by sibutramine.

REFERENCES

- Arterburn DE, Crane PK, Veenstra DL. The efficacy and safety of sibutramine for weight loss: a systematic review. *Arch Intern Med.* 2004;164(9):994-1003.
- Nisoli E, Carruba MO. An assessment of the safety and efficacy of sibutramine, an anti-obesity drug with a novel mechanism of action. *Obes Rev.* 2000;1(2):127-139.
- Office of the Commissioner Safety Alerts for Human Medical Products—Meridia (Sibutramine): Market Withdrawal Due to Risk of Serious Cardiovascular Events. US Food and Drug Administration website. <http://www.fda.gov/safety/medwatch/safetyinformation/safetyalertsforhumanmedicalproducts/ucm228830.htm>. Updated September 9, 2013. Accessed May 11, 2014.
- James WP, Caterson ID, Coutinho W, et al; SCOUT Investigators. Effect of sibutramine on cardiovascular outcomes in overweight and obese subjects. *N Engl J Med.* 2010;363(10):905-917.
- 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.
- 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.
- Lee J, Teoh T, Lee T-S. Catatonia and psychosis associated with sibutramine: a case report and pathophysiologic correlation. *J Psychosom Res.* 2008;64(1):107-109.
- Müller D, Weinmann W, Hermanns-Clausen M. Chinese slimming capsules containing sibutramine sold over the Internet: a case series. *Dtsch Arztebl Int.* 2009;106(13):218-222.
- Yuen YP, Lai CK, Poon WT, et al. Adulteration of over-the-counter slimming products with pharmaceutical analogue: an emerging threat. *Hong Kong Med J.* 2007;13(3):216-220.
- Medication Health Fraud—Public Notification: "Pai You Guo Slim Tea" Contains Undeclared Drug Ingredient. US Food and Drug Administration website. <http://www.fda.gov/Drugs/ResourcesForYou/Consumers/BuyingUsingMedicineSafely/MedicationHealthFraud/ucm276157.htm>. Updated October 18, 2011. Accessed May 11, 2014.
- Waszkiewicz N, Zalewska-Szajda B, Szajda SD, et al. Sibutramine-induced mania as the first manifestation of bipolar disorder. *BMC Psychiatry.* 2012;12(1):43.
- Naik S, Khoo CL, Lua R, et al. Recurrent episodes of brief affective psychosis induced by sibutramine. *Prog Neuropsychopharmacol Biol Psychiatry.* 2010;34(7):1359-1360.
- Litvan L, Alcoverro-Fortuny O. Sibutramine and psychosis. *J Clin Psychopharmacol.* 2007;27(6):726-727.
- Dogangun B, Bolat N, Rustamov I, et al. Sibutramine-induced psychotic episode in an adolescent. *J Psychosom Res.* 2008;65(5):505-506.
- Gazdag G, Szabó Z. Sibutramine-associated psychosis (case report). *Neuropsychopharmacol Hung.* 2008;10(2):107-110.
- Rosenbohm A, Bux CJ, Connemann BJ. Psychosis with sibutramine. *J Clin Psychopharmacol.* 2007;27(3):315-317.

Letters to the Editor

17. Wiglusz MS, Cubała WJ, Nowak P, et al. Sibutramine-associated psychotic symptoms and zolpidem-induced complex behaviours: implications for patient safety. *Psychiatr Danub*. 2013;25(suppl 2):S143–S145.
18. Taflinski T, Chojnacka J. Sibutramine-associated psychotic episode. *Am J Psychiatry*. 2000;157(12):2057–2058.
19. Binkley K, Knowles SR. Sibutramine and panic attacks. *Am J Psychiatry*. 2002;159(10):1793–1794.

Kevin A. Shah, BS
kshah011@fiu.edu
Mary-Ann A. Abraham, BS
Juan B. Espinosa, MD

Author affiliations: Herbert Wertheim College of Medicine, Florida International University, Miami (all authors); and Center for Behavioral Health, Memorial Regional Hospital, Hollywood, Florida (Dr Espinosa).

Potential conflicts of interest: None reported.

Funding/support: None reported.

Acknowledgment: The authors express appreciation to Patricia Junquera, MD, for valuable and constructive suggestions during the development of this work. Dr Junquera has no potential conflict of interest to report.

J Clin Psychiatry 2015;76(7):e893–e894
[dx.doi.org/10.4088/JCP.14l09533](https://doi.org/10.4088/JCP.14l09533)

© Copyright 2015 Physicians Postgraduate Press, Inc.