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Mania Associated With *Rhodiola Rosea*: An Adaptogen With Antidepressant Effects

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There has been an increasingly popular trend to use herbal medicinal and nutritional products, referred to as adaptogens, to promote resilience and well-being.¹ Some of these agents are commercially available over the counter or via Internet resources. Yet, although touted to promote adaptability and reduce distress, the pharmacodynamics and potential adverse effects of several of these products remain poorly understood. We describe a patient whose use of *Rhodiola rosea* (*sedum roseum*) led to hospital presentation with mania.

Case Report

A 58-year-old man presented to the emergency department (ED) after his neighbors called police due to his disruptive behavior, including loud yelling and breaking items in his apartment. In the ED, he was noted to be loud, restless, hyperactive, and poorly redirectable. There were concerns about self-injury (eg, he engaged in head banging and other erratic behaviors). His vitals were blood pressure: 136/80 mm Hg, heart rate: 128 beats/minute, and respiratory rate: 20 breaths/minute. Efforts were directed at mitigating the potential for self-harm with intravenous lorazepam 2 mg, intramuscular injection of haloperidol 10 mg, and use of restraints. Due to lack of response, he was intubated and sedated with an intravenous propofol solution 20 mcg/kg/min. He remained intubated for about 36 hours. Laboratory studies were notable for an elevated aspartate aminotransferase: 130 IU/L, alanine aminotransferase: 57 IU/L, and creatine kinase: 4,789 U/L, reflective of rhabdomyolysis and dehydration. Other laboratory tests and the urine toxicology screen were noninformative.

Once extubated, psychiatric evaluation revealed a patient with pressured, overproductive speech. He often talked over the examiner and required frequent redirection. His thought process was digressive and frequently tangential. Thought

content focused on elaborations of his accomplishments and grandiose themes. He endorsed no illusions or hallucinations.

He denied past psychiatric treatment. He had a remote alcohol use disorder history, with high tolerance, and persistent use despite prior alcohol-related legal charges (ie, 3 driving while intoxicated charges). He denied alcohol use in 11 years, which was corroborated by collateral informants. He denied any known familial history of a major mood or psychotic disorder.

He fancied himself a “fitness buff,” indicating that he exercised twice daily. He used dietary supplements (α-glyceryl phosphoryl choline, whey protein, creatine), multivitamins (B complex, C and D), and adaptogens (*Rhodiola rosea*) for “exercise enhancement.” He admitted to using 3 times the recommended amount of *Rhodiola rosea*. He denied anabolic steroid use.

With continued monitoring and intravenous hydration, his symptoms remitted within 2 days. No mood-stabilizing agents or antipsychotics were required. Psychoeducation was provided regarding the hazards of unauthorized and excessive use of adaptogens. Arrangements were made for follow-up with his primary physician and psychiatric outpatient care within a week of discharge.

Discussion

The adaptogens, including ginseng and *Rhodiola rosea*, possess diverse mechanisms of action, some of which are not fully known. It is difficult to succinctly state how the varied agents produce effects, and, in many cases, common adaptogens can exert multiple simultaneous central nervous system effects. Further, the effects of some adaptogens can vary when ingested at different dosages or with sustained (long-term) use that are distinct from short-term effects.

Rhodiola rosea has been demonstrated to have modest antidepressant effects.² The effects of *Rhodiola rosea* on mood are thought to be related to its ability to centrally stimulate noradrenergic, dopaminergic, and serotonergic receptors.³ The paucity of pharmacodynamic information on *Rhodiola rosea* has made it difficult to determine the optimal doses to employ for mood-elevating purposes. The safety of the use of *Rhodiola rosea* in large doses or in patients vulnerable to bipolar disorder has not been established.

Mania has been associated with use of some of the adaptogens, including ginseng.^{4,5} However, this is the first case, to our knowledge, illustrating the potential of *Rhodiola rosea* to precipitate a manic episode. No case reports are published to date regarding other psychiatric adverse

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effects associated with its use. Clinicians need to be aware of the possibility that patients may present with transient, substance-induced, manic-like behavior that can be related to use of adaptogens such as *Rhodiola rosea*.

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REFERENCES

1. Panossian AG, Efferth T, Shikov AN, et al. Evolution of the adaptogenic concept from traditional use to medical systems: pharmacology of stress- and aging-related diseases. *Med Res Rev*. 2021;41(1):630–703.
2. Mao JJ, Xie SX, Zee J, et al. *Rhodiola rosea* versus sertraline for major depressive disorder: a randomized placebo-controlled trial. *Phytomedicine*. 2015;22(3):394–399.
3. Brown RP, Gerbag PL, Ramazanov Z. *Rhodiola rosea*: a phytomedicinal overview. *HerbalGram*. 2002;56:40–52.
4. Kazi SE, Karia R, Leontieva L. Herbal supplements: can they cause hypomania? *Cureus*. 2021;13(2):e13476.
5. Norelli LJ, Xu C. Manic psychosis associated with ginseng: a report of two cases and discussion of the literature. *J Diet suppl*. 2015;12(2):119–125.