

Can Using a Detoxification Kit Result in Bizarre Behavior and Hallucinations?

To the Editor: I read with great interest the study by Mittal et al in which the authors present the case of a 19-year-old cannabis-addicted Asian man who experienced bizarre behavior and hallucinations after using a detoxification kit in a desperate effort to apply for a job. The authors noted the patient's history of cannabis smoking 2 to 3 times per week for the last year. The patient was treated with lorazepam and haloperidol. They interestingly attributed the patient's signs and symptoms to the contents of the detoxification kit.

Ingredients of the kit used by the patient included riboflavin (vitamin B₂), cyanocobalamin (vitamin B₁₂), dandelion, cascara sagrada, turmeric, burdock, milk thistle, guarana extract, green tea, *Echinacea purpurea*, potassium, proprietary blend, creatine monohydrate, alfalfa leaf, slippery elm bark, reishi mushroom, uva ursi leaf, cayenne pepper, licorice, peppermint leaf, red root, schisandra, and sorbitol. Interestingly, none of the above-mentioned ingredients can result in such a presentation as that exhibited by the patient.

Riboflavin and cyanocobalamin have been reported not to have any significant side effects except for an anaphylactoid reaction when given parenterally.² Dandelion may cause ragweed allergy.³ Cascara sagrada has been reported to cause abdominal pain, allergic rhinitis, immunoglobulin E-mediated asthma, diarrhea, melanosis, steatorrhea, vomiting, change in urine color, fluid and electrolyte abnormalities, and osteomalacia.⁴ Turmeric has been shown to slow blood clotting.⁵ Burdock has resulted in diaphoresis and increased perspiration because of its oily ingredient.⁶ Milk thistle may cause diarrhea, nausea, bloating, and upset stomach.⁷ Guarana extract contains caffeine, theobromine, and theophylline in varying quantities. Guarana is currently thought to have no adverse effects other than potential caffeine toxicity.⁸

Echinacea purpurea has been accompanied by nausea, allergic reactions, asthma, skin rashes, trouble in breathing, and dizziness.⁹ No side effects have been reported for proprietary blend,¹⁰ while the reported side effects for creatine monohydrate include gastrointestinal distress; muscle strain, cramp, and tear; flatulence; and renal distress in those with previous history of renal disease.¹¹ Only isolated reports of allergy with alfalfa leaf have been published.¹² To date, there is no report of side effects of slippery elm bark.¹³ The reported side effects of reishi mushroom are dryness of the mouth, stomach upset, nose bleed, and allergy.¹⁴ Uva ursi leaf contains arbutin and hydroquinone as well as tannin and may cause nausea and vomiting, insomnia, and irritability.¹⁵ Cayenne pepper is prohibited in pregnancy and has resulted in allergy in those allergic to chestnut, banana, kiwi, and avocado.¹⁶ Side effects associated with licorice are increased blood pressure, water storage (hence, may worsen the condition of patients with congestive heart failure), hypokalemia, sexual problems in men, and worsening kidney diseases.¹⁷ Peppermint leaf is thought to be safe; however, its enteric-coated tablets may cause diarrhea and anal burning.¹⁸ Red root and schisandra are thought to be safe.^{19,20} Finally, sorbitol may induce allergy, blurred vision, chest pain, confusion, diarrhea, nausea, seizure, shortness of breath, thirst, tiredness, and vomiting.²¹

Although the manufacturers of such commercial compounds may exaggerate their safety, there is another point about this patient that may cause the reader to doubt that the detoxification kit caused his psychosis. As the authors mentioned, the patient's urine drug screen showed a tetrahydrocannabinol level of 268 ng/mL when he was admitted to the psychiatric ward. How do the authors know that his symptoms were not due to acute cannabis intoxication? Thank you for this interesting study.

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Potential conflicts of interest: None reported.

Funding/support: None reported.

Published online: December 27, 2012.

Prim Care Companion CNS Disord. 2012;14(6):doi:10.4088/PCC.12lr01366.

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Dr Mittal and Colleagues Reply

To the Editor: We thank Dr Zamani for taking the time and interest to pose these important questions about our article.¹ First, we would like to clarify that the article is based on a case report and is not a formal study. We will address the questions and concerns in the same order as received.

"They have interestingly attributed the patient's signs and symptoms to the contents of the detoxification kit." Response: We merely established a temporal association between the consumption of the detoxification compound and the development of psychotic symptoms. We did not establish any causative associations.

"They treated the patient with haloperidol and lorazepam." Response: The patient was given haloperidol and lorazepam only in the emergency room once for agitation. The medications were not repeated during the patient's stay on the inpatient unit. Also, 1 dose of haloperidol and lorazepam is unlikely to treat a patient with psychotic illness secondary to cannabis abuse. As we mentioned in the case report, the psychotic symptoms resolved after discontinuation of the detoxification compound without any treatment.

"No side effects have been reported for proprietary blend." Dr Zamani provides a reference for an acai berry product with a proprietary blend. Response: The proprietary blend is the undisclosed ingredients in any product. So, it would be unjustified to compare 2 different compounds with proprietary blends, which can very well be different. Our response is that we do not know what ingredients are included in the proprietary blend, so any comment on its effects or side effects could not be justified.

Dr Zamani provides a statement about the side effects of creatine. Response: We provided references for isolated case reports of psychosis with consumption of large amounts of creatine. Dr Zamani has presented a review of the side effects of the ingredients of the detoxification compound. As mentioned in our article, we completed an extensive review of the ingredients using not only the information Web sites such as www.webmd.com and information sites for the respective compounds, but also case reports and any ongoing research about these compounds, with special focus on psychotic symptoms.

"How do the authors know that his symptoms were not due to acute cannabis intoxication?" Response: As we mentioned in the original article, cannabis intoxication has been shown to be only a component cause of psychosis.³ In our patient, the cannabis intoxication was chronic with no history of psychotic symptoms in the past. There was no family history of psychotic illness, and psychotic symptoms resolved within 2 to 3 days without using antipsychotics, except for the single dose of haloperidol. The patient denied any psychotic symptoms at a follow-up appointment 6 months after his hospitalization. On the basis of these facts, it is unlikely that his psychosis was a direct effect of acute cannabis intoxication.

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Potential conflicts of interest: Dr Khan has served on the speakers or advisory boards of Merck and Schering Plough. Drs Mittal and Kalia report no conflicts of interest related to the subject of this letter.

Funding/support: None reported.

Published online: December 27, 2012.

Prim Care Companion CNS Disord. 2012;14(6):doi:10.4088/PCC.12lr01366a.

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