

Letter to the Editor

A Demand for Clarity Regarding a Case Report on the Ingestion of 5-Methoxy-*N,N*-Dimethyltryptamine (5-MeO-DMT) in an Ayahuasca Preparation

To the Editor:

The case report "A Fatal Intoxication Following the Ingestion of 5-Methoxy-*N,N*-Dimethyltryptamine in an Ayahuasca Preparation" by Sklerov et al. (1) is misleading as to the nature and toxicity of ayahuasca.

The authors of the article state that: "the decedent ingested a preparation from a South American tree bark 'oasca' (sic) and approximately 4 h later ingested tryptamines" (p 839). However, elsewhere in the article they assert that this is a case of "administration of an ayahuasca-like preparation *containing* 5-MeO-DMT" (p 838, italics added) and further, that "this is the only reported case of death following ingestion of hallucinogenic tryptamines *contained in* an ayahuasca preparation" (p 841, italics added). The article's title also purports that this is a case of "5-Methoxy-*N,N*-Dimethyltryptamine *in* an Ayahuasca Preparation" (italics added).

It is highly improbable that the levels of 5-MeO-DMT found in the decedent's heart blood came from (or was "in") a plant-based preparation similar to the ayahuasca medicine/sacrament used for centuries by indigenous healers of the Amazon regions of South America. Because there is no known plant or animal source that would provide such a large amount 5-MeO-DMT, we believe the decedent must have ingested synthetic material. "Ayahuasca" refers to decoctions made from *Banisteriopsis caapi* and usually other admixture plants. One of these, *Diplopterys cabrerana*, does contain trace amounts of 5-MeO-DMT. The most common ayahuasca admixture, however, is *Psychotria viridis*, which like *B. caapi*, does not contain 5-MeO-DMT. It is not clear from the evidence presented which admixtures might have been in the herbal preparation, but the disproportionately high level of 5-MeO-DMT reported in the decedent's heart blood (1.88 mg/L) suggests that synthetic 5-MeO-DMT was taken subsequent to a more traditional herbal preparation. This point is not insignificant, as 5-MeO-DMT is far more potent than its analogue DMT, and a confusion between the two could have been the cause of an unintentional overdose of the former, particularly in combination with potentiating beta-carbolines. Most salient, however, is that there is no evidence that the 5-MeO-DMT ingested by the decedent was "in" (i.e., a constituent of) anything resembling a traditional ayahuasca brew or that his death from "hallucinogenic amine intoxication" can in any way be attributed to ayahuasca per se, as a superficial or uninformed reading of the article insinuates.

A number of important details, to which the authors may have been privy but are not reported on in the article, could help to set the record straight on this matter. What exactly was the herbal "oasca" preparation made from? What were the "tryptamines" taken 4 h after the "oasca" herbal preparation? Is there any estimation of the quantity of tryptamine taken 4 h after the "oasca" preparation? (The ratio of 5-MeO-DMT to the other psychoactive alkaloids found in the decedent's heart blood is grossly disproportional). Answers to these questions would provide clarity about the nature of this particular case and the generalizations that may be extended from it.

This clarification is important, as readers may otherwise make unwarranted inferences about the toxicity and harmfulness of ayahuasca. Anthropological (and growing contemporary scientific) evidence suggests the contrary: ayahuasca has long been revered as a traditional therapeutic agent over a large geographical region and throughout a wide variety of cultures, and it arguably deserves more attention from modern medical researchers and clinical practitioners. Furthermore, scientific information and analysis played a crucial role in a recent United States Supreme Court case involving the legality of

ceremonial ayahuasca use under the Religious Freedom Restoration Act. Misleading aspects of the case report by Sklerov et al. (1) could influence future legal decisions on this matter in the United States and in other countries, should they be considered on their superficial merits. Moreover, scientific and intellectual integrity demand clarity on this complex issue.

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References

1. J. Sklerov, B. Levine, K.A. Moore, T. King, and D. Fowler. A fatal intoxication following the ingestion of 5-methoxy-*N*, *N*-dimethyltryptamine in an ayahuasca preparation. *J. Anal. Toxicol.* **29**: 838–843 (2005).

The Authors' Reply:

The authors appreciate the careful reading and attention paid to the case report by Drs. Callaway et al., and we agree that additional information regarding the circumstances of the overdose would provide clarification. Unfortunately the composition, dosage, and precise dosing timeframe for the drugs in this case are unknown. Had they been available, they would have been included in the manuscript.

As to the source of the 5-MeO-DMT, we are not prepared to speculate whether it was solely present in any "oasca" preparations described in the investigation case notes or solely administered in synthetic form, as proposed by Dr. Callaway et al. Both scenarios deserve consideration, and we do not rule out either or a combined source based on the collected data.

We agree with Dr. Callaway and colleagues that Ayahuasca deserves more attention. Through the presentation of this case, we hope to ensure that attention is paid through legitimate study rather than additional toxicity reports.

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