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# Case Report: An ingestion of Hawaiian Baby Woodrose seeds associated with acute psychosis

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## Abstract

An 18 year old male ingested Hawaiian Baby Woodrose seeds (containing the hallucinogen lysergic acid) and required hospitalization for psychotic behavior. This is the second documented case of an acute psychosis ascribed to ingestion of this plant, and it is suggested that Hawaiian Baby Woodrose ingestion should be present in the differential diagnosis when dealing with the acutely psychotic young adult patient.

## Case Report

An 18 year old male with a past psychiatric history of polydrug abuse and depression with suicidality was escorted by his parents into the emergency department approximately 6 hours after ingesting 15 seeds of the Hawaiian Baby Woodrose plant. He also admitted to inhaling ether extracted from starter fluid, smoking a small amount of marijuana, ingesting dextromethorphan hydrobromide, and taking a maintenance dose of paroxetine (20 mg). He had been sent home from high school that morning for erratic behavior and was later confronted by law enforcement officers because he was attempting to "drive into the sky" near a sea cliff.

In the emergency department the patient was oriented to person but not place or time. His behavior was described as erratic and bizarre. He was responding to internal stimuli, admitted to visual hallucinations consisting of a montage of "color blotches," and exhibited a tangential thought process with sporadically nonsensical content. The patient also admitted to symptoms of depression, including suicidal and homicidal ideation, but denied symptoms of mania. His vital signs were significant for sinus tachycardia (119-144) and hypertension (SBP 131-179, DBP 68-114), and physical examination was significant only for 3+ hyperactive reflexes throughout. Initial laboratory evaluation in the emergency room was unremarkable except for a urine drug screen positive for marijuana only. The patient was noted to have polyuria for the first 12 hours after arrival despite a relatively normal fluid intake.

The patient was subsequently admitted to an acute inpatient psychiatric ward, and upon arrival the patient was incoherent and behaving in a bizarre fashion. He stated that he was still hallucinating, and described the experience as "scary but fun," a transcendent experience which was "the best experience of [his] life...an amazing and wonderful fantastic trip...where [he] was able to look into himself [and think] about deep philosophies." The patient was placed in sensory isolation and treated with risperidone BID and lorazepam PRN for agitation. Twelve hours after arriving on the ward his sensorium began to clear, and he denied suicidal or homicidal ideation. He was discharged to outpatient psychiatric follow up on the sixth day.

## Discussion

Hawaiian Baby Woodrose (*Argyreia nervosa*) is a member of the family convolvulaceae, a group notorious for their psychedelic properties - the Hawaiian Woodrose (*Merremia tuberosa*), Morning Glory (*Ipomoea violacea*), and Ololuique (*Rivea corymbosa*). All of these plants are known to grow naturally in the Hawaiian Islands. *A. nervosa* as a hallucinogen and sympathomimetic agent contains the active component lysergic acid and related alkaloids, a substance similar in structure and action to the potent hallucinogen lysergic acid diethylamide (LSD). However when compared to LSD, Hawaiian Baby Rosewood ingestion has been ascribed as having a relatively lesser degree of hallucinogenic effect and a greater degree of autonomic reactivity which are similar to scopolamine<sup>1</sup>. It has been estimated by one author that four to 8 seeds of *A. nervosa* contain an equivalent of 10,000 µg of LSD; however the alkaloid is poorly extracted from the seed<sup>2</sup>. In comparison, ingestion of 400-500 µg of LSD is widely considered to be a heavy dose that may potentially trigger a psychotic hallucinogenic state, thus it may be postulated that this patient's ingestion of 15 seeds was a psychotic dose.

Recreational abuse of Hawaiian Baby Woodrose was not uncommon in the United States during the 1960's and 70's but has rarely been cited in the literature; however the findings in this case are roughly consistent with another isolated case report. Al-Assmar described a case of Hawaiian Baby Woodrose seed overdose (without ingestion of other substances) that caused an 18 year-old man to experience a similar syndrome consisting of auditory hallucinations, tachycardia, and hypertension; but also included vomiting, nystagmus, and dilated pupils<sup>2</sup>. Due to the number of substances

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and faculty preceptors. The sessions were developed and presented by geriatric medicine faculty. The project was supported in part by the Donald W. Reynolds Foundation Comprehensive Programs to Strengthen Physicians' Training in Geriatrics Grant, Division of Geriatric Medicine, John A. Burns School of Medicine, University of Hawaii.

**Session 1** focuses on addressing the characteristics of a "good" and "bad" death experience, as well as aspects of advance care planning. In small group discussions, residents share their experiences with end-of-life care and the positive/negative aspects of such encounters. The session concludes with discussions of clinical cases highlighting advance care planning.

**Session 2** addresses several topics such as physician-assisted suicide, physical/psychosocial issues related to end-of-life, pain management, and determining the goals of care. Faculty and residents participate in a jeopardy-style game followed by brief discussions on each topic.

**Session 3** deals with the withdrawal of invasive care treatment. Residents are presented with a standardized patient scenario and are given 15 minutes to discuss end-of-life issues with the patient's family. Topics include addressing goals of care, resuscitation status, and withdrawal of ventilatory support. The session closes with a debriefing by the faculty preceptor and the residents who conducted individual standardized patient encounters. Discussions emphasize elements of each interview that were effective and helpful.

A comprehensive, integrated, and longitudinal curriculum is the key to effective training in care at the end of life. At the University of Hawaii, the development, implementation, and sustainability of a high-quality end-of-life care curriculum will have additional benefits including compliance with ACGME guidelines. The curriculum would also help to improve resident performance on standardized tests such as the Internal Medicine In-Training examination and the ABIM certification examination.

The provision of quality care for the chronically and terminally ill is a critically important task. A comprehensive curriculum for resident physicians is a step to ensure better care for patients nearing the end of their lives. Decisions made by dying patients and their families are difficult and challenging. Preparing physicians-in-training with the knowledge, skills and attitudes necessary to address issues in end-of-life care will help patients and their families experience death and dying in a more meaningful way.

#### References

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used in this case it is impossible to ascribe clinical signs and symptoms with absolute certainty to any one substance, however Hawaiian Baby Woodrose is suspect as the major cause of this patient's psychotic state 1) due to the number of seeds of a known hallucinogen that were ingested, 2) given the prominence of hallucinations in the overall clinical syndrome, 3) given the clinical syndrome's similarity to previous reports of Hawaiian Baby Woodrose intoxication, and 4) since the other substances ingested are either not known to cause hallucinations as their most prominent feature or have a relatively short half-life/were taken in relatively low doses and are thus unlikely to cause this clinical scenario.

Due to the risk of psychosis, it is important for Hawaii physicians to recognize the effects of Hawaiian Baby Rosewood ingestion since it can be found growing locally in Hawaii. Furthermore, although the patient failed to disclose where he procured the seeds, the authors were able to find several internet web sites with a sophisticated commentary offering direct-to-consumer marketing of Hawaiian Baby Woodrose seeds as a recreational hallucinogen (\$11-15 per dose of 10 seeds). Further investigation into anecdotal experiences with this substance published on the World Wide Web suggests that serious psychotic episodes may not be as uncommon as would be suggested by the paucity of medical literature on the subject. In conclusion, the authors suggest that Hawaiian Baby Woodrose seed ingestion should be present in the differential diagnosis when dealing with the acutely psychotic young adult patient.

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