

Case Report

The risks of using unregulated naturopathics to treat psychiatric symptoms

Parinda Parikh^{1*}, Zoe Gellert², Mahiya Buddhavarapu³, Sahia Manepalli⁴, Arnesh Shukla⁵,
Aatish D. Bhatta⁶, Shaurya K. Singh⁷, Parthiv Pansuriya⁸, Himani J. Suthar⁹,
Arushi K. Chandra¹⁰, Mina Oza¹¹

¹Department of Psychiatry, Weill Cornell Medical School, White Plains, NY, USA

²Tulane University, New Orleans, Louisiana, USA

³University of Pittsburgh, Pennsylvania, USA

⁴University of South Florida, Florida, USA

⁵St. Martinus University, Willemstad, Curacao

⁶KIST Medical College and Teaching Hospital, Lalitpur, Nepal

⁷Pravara Institute of Medical Sciences, Loni, Maharashtra, India

⁸Government Medical College, Surat, Gujarat, India

⁹GMERS Medical College and Civil Hospital, Gandhinagar, Gujarat, India

¹⁰New York University Steinhardt School of Culture, Education and Human Development, New York, USA

¹¹2nd ARC Associates, White Plains, NY, USA

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*Correspondence:

Dr. Parinda Parikh,

E-mail: drparikh@2ndarc.com

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ABSTRACT

Aconitine, a di-terpenoid alkaloid derived from *Aconitum* species, has been used in traditional Chinese medicine for over 2000 years, yet it's extremely narrow therapeutic window and potent neurotoxicity and cardiotoxicity make unregulated preparations hazardous. A 30-year-old woman developed acute auditory and visual hallucinations, insomnia, and self-neglect after eight weeks of nightly sublingual use of an over-the-counter "natural" spray labelled as 200 CH *Aconitum napellus*. Emergency management included long-acting injectable aripiprazole (720 mg), oral olanzapine (5 mg), and clonazepam (5 mg). Three days later, the patient's psychosis had subsided, although fatigue and weakness persisted. She received a second aripiprazole LAI (675 mg) plus scheduled olanzapine and clonazepam. Analysis of the spray revealed aconitine, implicating substance-induced psychotic disorder (SIPD). Differentiating SIPD from primary psychosis with substance abuse is critical because definitive management relies on prompt removal of the offending agent and antipsychotic therapy. The case highlights how dilution and "natural" labelling can mask the presence of lethal alkaloids, exposing patients to severe neuropsychiatric and cardiovascular events. Even highly diluted aconite remedies can precipitate first-episode psychosis and other life-threatening toxicities. Clinicians should systematically screen for complementary and alternative medicines, educate patients about unregulated products, and advocate for stricter oversight of naturopathic preparations. Public health efforts to pair evidence-based guidance with culturally sensitive counseling are essential to prevent avoidable morbidity and mortality from herbal remedies.

Keywords: Aconitine (*Aconitum napellus*), Psychosis, Neurotoxicity

INTRODUCTION

Aconitine (root of wolfsbane) is a di-terpenoid alkaloid found in the *Aconitum* species. It is one of the most bioactive and toxic compounds found in the root of the *Aconitum napellus* plant. Some of the other toxic alkaloids present in the *Aconitum* species include mesaconitine and hypaconitine. The complex structure of aconitine enables it to interact with cellular membranes and critical biomolecules, such as ion channels, lipids, and proteins, which leads to the effects it can cause in the body. Aconitine is highly lipid-soluble, allowing it to easily penetrate cell membranes, after which it can exert its effects at the intracellular level. Aconitine works by disrupting $\text{Na}^+\text{-K}^+\text{-ATPase}$ and other ion channels, which can lead to its severe side effect profile.¹

There are several neurological, cardiovascular, and gastrointestinal symptoms that can manifest as a result of ingesting aconite. Some of these include psychosis, paresthesias, muscle weakness, hypotension, chest pain, palpitations, bradycardia, sinus tachycardia, ventricular fibrillation, nausea, vomiting, hypoglycemia, abdominal pain, and diarrhea. More severe cases of aconite toxicity can cause death as a result of refractory ventricular arrhythmias and asystole.¹

Aconitum has been used in traditional Chinese medicine for over 2000 years.² However, since aconitum is highly toxic in nature, the Food and Drug Administration has only approved processed and detoxified forms of aconitum for distribution and medicinal purposes. The processing technique encompasses cutting, crushing, roasting, and baking, which can detoxify the compound and help produce various concentrations of the compound, guiding different therapeutic effects.³ Traditionally, the detoxified form of aconitum has been used to treat various diseases, including painful joints and inflammation, gastroenteritis, oedema, diarrhea, bronchial asthma, and rheumatic fever. The processing technique should be done with caution since there have been multiple instances of improper detoxification leading to fatalities.⁴⁻⁶ This case aims to provide pertinent information regarding holistic naturopathic medicine that is unregulated and how it can cause severe side effects, including death.

CASE REPORT

The patient is a 30-year-old woman who has been divorced for 8 years and currently lives with her parents and 8-year-old son. The patient was seeking therapy to navigate worsening anxiety that has manifested since her sexually and physically abusive marriage.

The patient initially presented with acute psychosis at the community clinic for an emergency visit, reporting auditory and visual hallucinations. She had previously consulted a therapist, who prescribed a naturopathic remedy. She gave her a spray bottle cocktail containing 200 CH of aconite (diluted 200 times) and suggested that

she spray it under her tongue twice before bedtime. After 8 consecutive weeks of using the spray, the patient suffered from symptoms of psychosis, requiring immediate medical intervention. The patient was not sleeping at night and was unable to self-feed, which has been consistent over the last 2 weeks. At the emergency visit, the patient received 720 mg of the long-acting injectable (LAI) aripiprazole, 5 mg of clonazepam, and 5 mg of oral olanzapine. The patient was advised to stop taking aconite and was provisionally diagnosed with substance-induced psychotic disorder. The differential diagnoses included bipolar I and a brief psychotic episode. The differentials were ruled out by simultaneous improvement in symptoms with the removal of the offending agent.

Three days after the first official visit, the patient presented with symptoms of weakness and fatigue; however, she confirmed the absence of auditory and visual hallucinations, as well as depressive thoughts and insomnia. The patient's parents also reported improvements in her symptoms at home. The patient received 675 mg of the LAI aripiprazole and was prescribed 5 mg of olanzapine twice daily for the psychosis. She was also given 1 mg of clonazepam. Upon inspection of the naturopathic remedy she was given, it was discovered that the spray bottle contained aconitine. The patient's psychotic break was attributed to the aconitine, since it is a common side effect of the compound.

DISCUSSION

Correctly identifying substance-induced acute psychotic disorder (SIPD) and a primary psychotic disorder with concurrent substance abuse (PPD+SA) can be diagnostically challenging.⁷ A systematic review was conducted to evaluate the comorbid drug use on specific symptomatology, revealing that drug-abusing patients with an underlying psychotic illness are less likely to experience negative symptoms compared to non-drug-abusing patients.⁸ An increase in positive symptoms is often co-occurring with substance abuse. However, there are discrepancies with some studies reporting no change in positive symptoms.⁹ The current diagnostic criteria in the DSM-5 for SIPD require the presence of hallucinations and delusions that arise during or soon after substance intoxication or withdrawal.⁹ The symptoms must cause significant distress or impairment and cannot exclusively occur during a period of delirium. The diagnosis of SIPD has substantial implications for patient management. If the psychosis can be directly attributed to an identifiable substance or drug, then antipsychotic treatment can be assessed with short-term intervention with an emphasis on substance abuse treatment.¹⁰ Furthermore, if the removal of the abused substance for a given period of time resulted in the resolution of the psychosis, it would confirm the initial diagnosis of SIPD.

Naturopathic remedies are made from plants, minerals, or animals through repeated dilution, which is believed to

enhance the medicinal effects of the substance and create a solution that has little to no trace of the original remedy. In the United States, some naturopathic products are marketed as conventional medicine and sold over the counter in grocery stores and pharmacies, despite numerous scientific reviews finding no credible evidence to support the effectiveness of these supplemental medications. Some examples of dangerous naturopathic medicine include St. John's wort (*Hypericum perforatum*), ephedra, belladonna, arsenic, and aristolochia, which have all been linked to multiple deaths.¹¹

Unregulated products create a false sense of safety, often encouraged by the use of organic substances; however, they are not approved by the Food and Drug Administration (FDA) as substantial treatments. The prescribers of these naturopathic remedies often lack the proper medical training and scientific knowledge required to accurately treat medical conditions. Consequently, the patients also lack medical knowledge and are often enticed into using naturopathic products due to their "natural" labeling.

This case demonstrates the increasing risk of long-term naturopathic remedies and co-occurring psychosis. It is essential that individuals seeking alternative treatment for medical conditions thoroughly research the natural remedies they are being recommended and consult a trained medical professional before consuming potentially dangerous herbal treatments.

CONCLUSION

Aconite is one of the most toxic naturally occurring substances used as a naturopathic treatment for medical conditions. This case underscores the severity of misusing life-threatening naturopathic compounds that can lead to death. The highlighted case of a woman who presented with first-break psychosis after spraying aconite under her tongue for 8 weeks amplifies the unsuspecting nature of individuals who are seeking "natural" remedies for medical concerns. Individuals who plan to use naturopathic remedies must research the possible side effects of the toxin and seek medical intervention if necessary. Finally, clinicians and medical professionals must routinely screen patients for alternative medicines and educate them on the hazardous implications of unregulated products. Safeguarding patient-centred care is dependent on integrating evidence-based medicine and proper counselling.

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