

# *Datura wrightii* Intoxication with Acute Encephalopathy: A Case Report

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## Abstract

*Datura wrightii*, known in North America as jimsonweed, sacred thorn-apple, thorn-apple, angel trumpet, and sacred datura, is a plant used to make medicine. Though widely regarded as unsafe, *Datura wrightii* is taken by mouth as a hallucinogen and as a medicine for loss of appetite. Historically, some Native American cultures have used *Datura wrightii* to induce visions during rite of passage ceremonies. In this article we presented the case of a 10-year-old male patient who was admitted to the emergency department with behavior disorder, vomiting, somnolence and mydriasis. He was admitted with symptoms of acute encephalopathy. Brain magnetic resonance and lumbar puncture was normal. The toxicology examination of urine didn't show any toxic substances. On the 5th day of admission, the patient's family informed that patient had eaten a plant from garden. From the picture of the plant information was gathered that the plant was *Datura wrightii*. The side effects of *Datura wrightii* are an anticholinergic syndrome like mydriasis, tachycardia, dry skin, and delirium which might mimic encephalopathy..

**Keywords:** *Datura wrightii*, Acute Encephalopathy, Intoxication.

## INTRODUCTION

*Datura wrightii*, known in North America as jimsonweed, sacred thorn-apple, thorn-apple, angel trumpet, and sacred datura, is the name of plant with hallucinogenic effects. *Datura wrightii* also contains atropin which is responsible for anticholinergic side effects like tachycardia, dry mouth, delirium, mydriasis, hypertermia [1]. Herein, we report acute encephalopathy with *Datura wrightii* toxicity after unintentional ingestion.

## CASE REPORT

A previously well 10-year-old male child was brought to the emergency room with vomiting, behavior disorder, and somnolence. Physical examination revealed Glasgow Coma Scale (GCS) of 12 and bilateral dilated pupils. The patient was

anxious and agitated. He had visual hallucinations, such as bugs in the emergency room. He was admitted acute encephalopathy and transferred to intensive care unit after blood tests, urine toxicology testing, magnetic resonance imaging (MRI) and lumbar puncture (LP). Blood glucose level (102 mg/dL), thyroid function tests (free T4:1, 4 mg/dl, TSH:1, 83 mIU/ml) and serum electrolytes (Na:140 mEq/L, K:4. 5 mEq/L, Cl:110 mEq/L, Ca:9. 3 mEq/L P: 5, 1 mg/L) were all in normal range. There were no toxic substances in the urine toxicology report. LP results did not reveal any pathological findings (Glu: 65mg/dL, Protein: 224mg/L, Cl:123 mEq/L, WBC: 4 cells/mm<sup>3</sup>, RBC:197 cells/mm<sup>3</sup>). MRI report did not show any sign for meningitis or encephalitis.

Intravenous ceftriaxone and acyclovir treatment was initiated as infectious causes could not be excluded and midazolam infusion

was given for patient's agitation. On the second day of the treatment his mydriasis and irritability regressed and GCS score was 15. On the fifth day patient's mother reported that he ate a green fruit of a plant from neighbor's garden.

Our research regarding the picture of the plant revealed that it was *Datura wrightii*.

## DISCUSSION

*Datura wrightii* contains atropine and scopolamine, which are responsible for anticholinergic syndrome [2,3]. These agents block muscarinic receptors in the central and peripheral nerve, which leads to delirium, agitation, hallucination, disorientation. Atropine causes tachycardia, dry mouth hypertermia, mydriasis by affecting peripheral nerves system. *Datura wrightii* is used for its hallucinating effect in some ethnic cultures. In toxicity, physostigmine can be used as a treatment and midazolam can be used for sedation [4]. In this case, hallucinative symptoms of our patient and mydriasis reduced in 24 hours. On the 6th day, our patient had no symptoms and was completely cured.

*Datura wrightii* is not an endemic species in our country and its production should be controlled because of its deadly toxicity. This case report shows that *Datura wrightii* toxicity can present as acute encephalopathy. The medical history should be taken repeatedly in cases of unexplained cases, and physicians should keep in mind the possibility that anticholinergic syndromes could be the result of consumption of plants or fruits, in particular those containing atropine and atropine derivatives.

### Conflict of Interest

The authors declare that there is no conflict of interest.

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None declared

## REFERENCES

1. Chung WM, Chian YY, Azmir A. Datura fruit poisoning. Med J Malaysia. 2018; 73(6): 453-454.
2. Adegoke SA, Alo LA. Datura stramonium poisoning in children. Niger J Clin Pract. 2013;16(1):116-8.
3. Özkaya AK, Güler E, Karabel N, Namlı AR, Göksügür Y. Datura stramonium poisoning in a child. Turk J Pediatr. 2015 Jan-Feb;57(1):82-4.
4. Glatstein MM, Alabdulrazzaq F, Garcia-Bournissen F, Scolnik D. Use of Physostigmine for Hallucinogenic Plant Poisoning in a Teenager: Case Report and Review of the Literature Am J Ther. 2012;19(5):384-8.