

## Stupefying with datura (poisoning): A case report and review of literature

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### Abstract

A young boy who was poisoned with Datura (Jimson weed / Datura stramonium) with an intent to stupefy him before robbery. He presented with an anticholinergic toxidrome. At presentation he had visual hallucinations, was disoriented, had incomprehensible and nonsensical speech along with dilated pupils. He also developed urinary retention and aggressive behavior. Datura is commonly found in India and is a potentially fatal poison causing anticholinergic toxidrome. Treatment is primarily supportive and gastrointestinal decontamination. It should be suspected in patients presenting with an unexplained peripheral or central anticholinergic syndrome particularly in younger age, partygoers and travelers. It is important to recognize this weed, as it has a potential for misuse and can cause severe life threatening poisoning requiring inpatient management at a hospital.

**Keywords:** Datura; Anticholinergic toxidrome; stupefy; Solanaceae family

### 1. Introduction

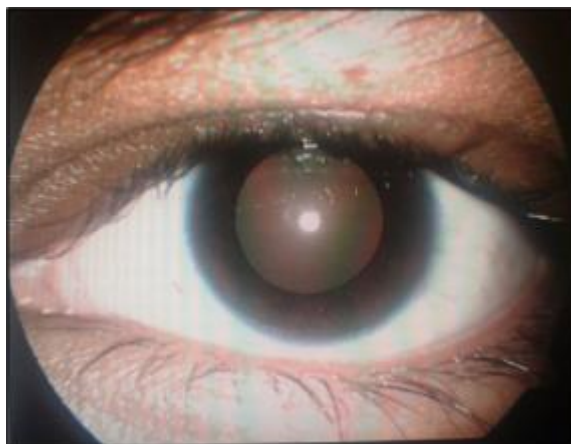
Datura plants belong to Solanaceae family. All parts are poisonous but seeds and fruits are most poisonous. Datura plants contain scopolamine, hyoscyamine and atropine.<sup>(1)</sup> It is popular poison for suicide, murder and is used for stupefying a victim prior to robbery, rape or kidnapping.<sup>(2)</sup> About 2778 deaths due to Datura poisoning was found in a study done at State chemical laboratories in Agra, India between time periods of 1050 to 1965.<sup>(3,4)</sup> In India it is very commonly used for rituals and worship of Hindu God Shiva. It is also considered as an aphrodisiac. We report a case of young boy who was given Datura with intent to rob him.

### 2. Case Presentation

17 years male presented with alleged history of fasting since morning. He consumed a glass of apple juice from street side vendor at railway station and went to sleep at home. He woke up after 2 hour and was noticed to have abnormal behavior with inappropriate talking, severe bilateral throbbing headache, giddiness and one episode of non bilious and blood stained vomiting. He was restless, agitated, speech was incoherent and was not able to recognize relatives. During the course of admission he also developed retention of urine. No history of fever, rash, drug intake and trauma.

On examination he was disoriented with time person and place. His temperature was 100.2 °C, heart rate was 120/min regular with bounding pulse, blood pressure was 140/78 mm Hg and respiratory rate was 24/min, SpO<sub>2</sub> was 98% at ambient room air. Pupils were bilaterally dilated, fixed with absent light reflex. Face was flushed and mouth was dry. There were no tremors or rigidity. Rest of systemic examination was within normal limit. He had visual hallucinations, was disoriented with time person and place. He had incomprehensible and nonsensical speech. He also developed urinary retention and aggressive behavior.

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**Figure 2** Dilated pupil at the time of hospital admission

Investigation revealed Hb of 15.4 gm/dl, leucocyte count was 6900/cumm, bilirubin was 0.7 mg/dl, AST and ALT was 23 and 30 IU respectively. Serum electrolytes were normal (Na/ K – 136 / 3.8 meq/l.) NCCT Head was normal study. Chest x ray was normal.

He was managed as a case of Datura poisoning. Gastric lavage was done and universal anti dote 4 slices of burnt bread with milk were given. Managed conservatively with lorazepam injection 2 mg every 30 mins to reduce patients agitation and intravenous fluids (DNS and NS @ 100ml /hour) in addition to other supportive measures like external cooling along with monitoring of urine output. After 24 hrs patient become oriented, his tachycardia settled and skin became normal in color and temperature. But still his pupils were dilated although sluggish light reflex was present.

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### 3. Discussion

Datura is a predominantly anticholinergic alkaloids (belladonna alkaloids: atropine, L-hyoscyamine and L-scopolamine) that produces toxicity. One seed can contain maximum concentration of 0.1mg of atropine and 0.2 to 1.4 % of hyoscyne. Lethal dose of atropine in human is more than 10 mg and scopolamine is 2-4 mg. (1)(2) Toxicity generally occurs within 1-2 hrs and symptoms remain for 36 -72 hrs. Its juice is tasteless and hence it's easy to mix in any type of soft drinks (juices and aerated drinks). Toxicity manifests as dryness of mouth, difficulty in talking, dysphagia, nausea, vomiting, epigastric burning pain , decreased bowel sounds. Voice may become hoarse. There will be tachycardia (HR120-140/min), dry skin, hyperthermia (2-3 degree rise in temperature), facial flushing and retention of urine. Conjunctiva will be congested, severe mydriasis with painful photophobia may be present and in severe case light reflex can be absent. Patients are delirious, have hallucinations of sight and hearing, are agitated . Initially it stimulates higher motor centers, but in severe (lethal dose) it causes depression of vital centers at medulla, resulting in seizures, loss of consciousness and coma(5). Death is due to nervous system depression and circulatory collapse.

Management include stomach wash and impairing absorption of the alkaloids by giving universal antidotes like activated charcoal, egg white and milk. Sometime emesis may be helpful. Delirium should be controlled by short acting barbiturates. In severe case haloperidol can be used. Severe Systemic symptoms (paralysis and circulatory collapse) should be managed with Physostigmine 0.5 mg i.v or im. It should be repeated every hour till tachycardia settles down. Pilocarpine nitrate 5 mg is another drug which is useful in CNS symptoms (2). In our case however patient was hemodynamically stable and his sensorium was also not severely impaired so we didn't to use haloperidol or physostigmine.

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### 4. Conclusion

Datura poisoning should be considered on top when patient comes with sudden unexplained peripheral or central anticholinergic syndrome, especially in young, partygoers and travelers Diagnosis is clinical and requires prompt treatment. It is important to recognize this weed as it has a potential for misuse and can cause severe life threatening poisoning requiring inpatient management at a hospital.

### **Compliance with ethical standards**

#### *Disclosure of conflict of interest*

No conflict of interest to be disclosed.

#### *Statement of informed consent*

Informed consent was obtained from all individual participants included in the study.

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