

Case Report**INTOXICATION DUE TO DATURA STRAMONIUM IN AN ADOLESCENT: A CASE REPORT****Kakkar A¹, Tiwari B², Kumar S³**

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Abstract

Poisoning of a young adolescent caused by the intake of extracts prepared from the plant *Datura stramonium* is presented. It is a broadleaf annual erect herb with spine covered seed capsule. Its toxic alkaloids, atropine and scopolamine, cause a series of characteristic classic symptoms of anticholinergic poisoning. Children are mostly exposed to the poisoning by the plant species from the genus *Datura*, however, the poisoning most frequently occurs due to plant abuse by adolescent addicts. A high index of suspicion and early management of poison in children is imperative if a favorable outcome is expected. Early presentation and the presence of an eyewitness contributed to the very good outcome in the case being described by us.

Key Words: Adolescent, Imperative, Poisoning, Abuse.**Introduction**

Datura stramonium [DS] commonly known as jimson weed or thorn apple, is a weed of the family Solanaceae. The plant is native to Asia. It is a hallucinogenic wildly growing plant widely found in urban and rural areas. As the plant contains anticholinergic alkaloids, its poisoning presents with symptoms and signs of anticholinergic syndrome. This syndrome results from the inhibition of central and peripheral muscarinic neurotransmission. Most cases of DS poisoning reported in the literature occurred among teenagers after voluntary ingestion of the plant for its hallucinogenic and euphoric effects.¹⁻⁵ This report illustrates an unusual case of *Datura* poisoning occurring in an adolescent after

deliberate ingestion of extracts of *Datura stramonium* for its euphoric effects.

Case Report

In the month of February, one year ago, a young adolescent male, was brought in a state of impaired consciousness, to the emergency care unit of a hospital. He was accompanied by his relative and a friend. He had alleged history of deliberately ingesting the extract of thorn apple, while playing in the ground in the presence of his friend, who had brought him, with the belief that the extract was taken primarily for its euphoric effects. On examination, he was unconscious, febrile, with axillary temperature of 38.7⁰C dry mouth, and dilated reactive pupils, bilaterally. He had tachycardia with pulse rate of 132 per minute and systolic hypertension with blood pressure of 150/58mm Hg. There

were no neurological signs and other systemic examination findings were normal. The child was diagnosed to have *Datura stramonium* poisoning, on the basis of eye witness and the clinical manifestations. Gastric lavage with Ryles tube and activated charcoal was rapidly performed. The child was treated symptomatically with antipyretic and diazepam. After 20 hours of admission he became fully conscious, co-operative and communicated intelligently. The recovery was uneventful. After recovering, the child reported that an older friend had given him the foliage of *Datura* plant and described him how to consume it for "pleasant feeling". So, subsequently he was referred to a child guidance clinic for counseling on substance abuse and also his parents were advised to provide knowledge to their child regarding substance abuse and its hazards.

Discussion

Causes of *Datura* intoxication include medication overdose, improper preparation of edible vegetables, deliberate abuse as a hallucinogen, and use for homicide or robbery and accidental intoxication. Typical symptoms of DS intoxication are those of atropine intoxication, which are dry skin and mucosa, flushing, mydriasis, sinus tachycardia, hyperpyrexia, decreased bowel sounds, urinary retention, and neurological disorders with ataxia, impaired short-term memory, disorientation, confusion, hallucinations (visual and auditory), psychosis, agitated delirium, seizures, and coma. In severe forms, respiratory failure and cardiovascular collapse have been reported.¹⁻⁵ Fatal dose is 100 to 125 seeds. Each fruit, on an average, contains about 500 seeds. In the absence of a proper history of ingestion of the fruit in children,

the condition is likely to be confused with viral encephalitis or Reye's syndrome.⁶ The treatment of patients poisoned by anticholinergics consists of general measures for patient stabilization, the procedure of gastrointestinal decontamination, and in more severe cases administration of physostigmine. Careful observation in a quiet place may sometimes prove sufficient for complete patient recovery, even without any additional procedures. In patients presenting with pronounced symptoms (especially in the first 6 hours of poisoning), the absorption of anticholinergic alkaloids may be significantly decreased by gastric lavage or ipecac syrup-induced emesis. Activated charcoal binds to toxins and decreases their absorption. Children have a special susceptibility to atropine toxicity; even a small amount may produce severe central nervous system manifestations.⁷ Despite the young age of our patient, a rapid improvement of the neurological manifestations was obtained, probably because the diagnosis was evident and gastric decontamination was carried out soon after ingestion. The prognosis of DS intoxication is usually favorable, as in our case, but it may be fatal, especially during massive intoxications meant to be autolytic or the result of toxicomania.⁵

Adolescents must have access to correct and detailed information on poisoning prevention since this remains one of the effective interventions in solving health and social challenges facing them. Correct and detailed information is essential to prevent misinformation from peers. Parents and children should be counseled about potential poisons and poison risks, including dangers associated with substance abuse.⁸ One of the most important challenges in *Datura* poisoning is the delay in making diagnosis; hence, it

should be suspected in adolescents presenting with altered mental state, hallucination, and anticholinergic features. A high index of suspicion and early management of poisoning in children is imperative if a favorable outcome is expected.⁸ Early presentation and the presence of an eyewitness contributed to the very good outcome in this case.

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