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CASR REPORT

Peganum Harmala (Aspand) Intoxication; a Case Report

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Received: June 2015; Accepted: August 2015

Abstract

There are several reports in the literature indicating a great variety of pharmacological effects for peganum harmala or aspand such as sedative anti-bacterial, anti-fungal, antiviral and antiprotozoal. Some people believe that can be used for treatment of some organic or psychiatric disorders. We introduce a woman with history of long time constipation that was disappointed in novel medical treatment and decided to use comminuted Aspand to relieve her problem .Two hours after use, the intoxication symptoms manifested as blurred vision, phonophobia, floating feeling, and tinnitus ringing. Here we report the treatment process and outcome of this case.

Keywords: Peganum; harmine; poisoning; emergency department

Cite this article as Sadr Mohammadi R, Bidaki R, Mirdrikvand F, Mostafavi Yazdi SN, Yazdian Anari P. Peganum harmala (aspand) intoxication; a case report. Emergency. 2016; 4(2):106-107.

Introduction:

Peganum harmala commonly known as Syrian Rue or "Aspand" is widely used in middle East and North Africa (1, 2). Various parts of harmala are used in traditional medicine. The pharmacologically active compounds of this herb are several alkaloids, which are found especially in the seeds and roots (3). It was used as sedative in restless and agitated patients. Its seeds are known to possess hypothermic, hallucinogenic and anti-oxidative properties (3, 4). There are several reports in the literature indicating a great variety of pharmacological effects for this plant such as sedative anti-bacterial, anti-fungal, antiviral and antiprotozoal (5, 6). It is also used illegally as an abortifacient agent (4). Aspand intoxication is among very rare causes of intoxication, with a mortality rate of about 6%. Nevertheless in some countries, it makes up 4.6% of all plant intoxications (7). Ingestion is the main route of intoxication, but inhalation and fumigation are also mentioned (8). There are few studies on related symptoms following consumption and intoxication with Aspand (9-11). Here we report a case of harmala intoxication presented to emergency department with psychiatric complaint.

Case presentation:

The patient was a 54-year-old woman presented to the emergency department with severe vomiting and abrupt onset of various neuropsychological symptoms. She was a housewife with low socioeconomic level. Her relatives mentioned that she had suffered from chronic constipation that did not respond to the common medicine. Therefore, following the recommendation of a friend, she had made a mixture of 50 grams of grinded aspand, water and sugar. Two hours after taking the cocktail, the symptoms were manifested as blurred vision, phonophobia, floating feeling, tinnitus ringing, and repetitive moving backward or forward. Family history for psychiatric disorders was negative. She had controlled hypertension from some years ago treated with atenolol tablet 100 mg/per day. On admission, she was lethargic and also disoriented to person, time and place. The patient had mild tachycardia (Heart rate: 105/minute) and increased blood pressure (Blood pressure: 160/90 mmHg) with oral temperature of 37.8 °C. Physical examination of the head, neck, chest, abdomen, and extremities did not show any positive finding. The neurological examination revealed somnolence,

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depersonalization, derealization, poor concentration, and ataxia. Blood glucose level, blood gas analysis, biochemistry profile, and brain imaging were reported as normal. 12 leads electrocardiography revealed normal sinus tachycardia. Since the patient history was reliable, Harmala intoxication was the definite diagnosis. She was treated with intravenous fluid of dextrose/saline, metoclopramide and antacid. After 12 hours of conservative management, signs and symptoms of toxicity were relieved and she left the hospital in a stable condition. Outpatient follow-up revealed full recovery with no complication.

Discussion:

Aspand intoxication usually is transient and self-limited and improves with supportive therapy. But consuming a high dose of it accidentally, intentionally, or for suicidal attempt may cause mortality. Aspand intoxication can cause various symptoms like misperception, impairment in sensorium and cognition, mild hyperthermia, or on the contrary, autonomic dysfunction like bradycardia and hypotension (7, 12). The symptomatology is dominated as neurological, gastrointestinal, and cardiovascular, respectively . In a study by Mahmoudian et al., tremor and seizure without increased spinal reflex, respiratory paralysis, hypothermia, and central nervous system suppression were reported as main manifestations of the mentioned intoxication (2). Yet, our patient had tremor and increase in deep tendon reflexes. It is suggested that this herb can imitate a monoamine oxidase inhibitor effect (6). The manifestations are dose dependent and higher dosage may increase probability of poisoning. Drug substance and metal poisoning can have the same presentation (4, 13). Since there is no specific anti-dote for this type of poisoning, the standard treatment is control of vital signs and supportive therapy. There are dissociative, psychotic and anxiety states that need special symptomatic treatment.

Conclusion:

Aspand may be used for various purposes, but ingestion can be so dangerous and life threatening. It imitates psychiatric and neurological presentation and can cause morbidity and mortality especially in higher doses.

Acknowledgment

We acknowledge all the staff of internal medicine service and emergency unit of Shahid Beheshti hospital of Taft for handling this patient.

Conflict of interest:

None

Funding support:

None

Authors' contributions:

All authors passed four criteria for authorship contribution based on recommendations of the International Committee of Medical Journal Editors. Rezvan Sadr Mohammadi and Reza Bidaki wrote the manuscript, Fazlollah Mirdrikvand revised a part of it, Nader Mostafavi and Reza Bidaki designed it, Reza Bidaki and Pouria Yazdian revised and submitted it.

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