Poisoning Due to Cryptostegia Grandiflora (Indian Rubbervine)

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ABSTRACT
We report four members of a family, father, two daughters and son who consumed kadha. One of them succumbed due to resistant ventricular tachycardia. Poisoning due to Cryptostegia Grandiflora has not been reported from India in the last 50 years.

CASE REPORT

Four members of a family presented to us with history of consumption of some kadha. Prepared with a mixture of Neem (Azadirchata Indica), Adulsa (Graptophyllum Pictum) and Guduchi (Tinospora Cordifolia).

Father, 52-year-old man who claimed to have knowledge of herbal medications and was into the habit of self-medication came with history of mild grade intermittent fever. He consumed some herbal mixture (kadha) and was admitted with complaints of pain in abdomen, nausea and vomiting since 1 day. On examination, he was febrile, Pulse was 96/min irregularly regular, BP was 110/70 mm Hg. His systemic examination was normal and lab reports were also normal. Daughter, a 13-year-old female student presented with H/O mild grade headache since 1 day. She was afebrile, Pulse was 76/min irregularly regular, BP was 100/70 mm Hg. Her systemic examination was normal except for tenderness in epigastric region. All lab reports were normal.

Daughter, a 13-year-old female student presented with H/O mild grade intermittent fever. She consumed some herbal mixture (kadha) and was admitted with complaints of pain in abdomen, nausea and vomiting and on examination she was afebrile, Pulse was 76/min irregularly regular, BP was 100/70 mm Hg. Her systemic examination was normal and lab investigations were normal. The elder daughter, 18-year-old female, came with history of mild grade intermittent fever since 6 days. She consumed the same kadha and came with chief complaints of pain in abdomen, nausea and vomiting. On examination, she was afebrile, Pulse was 76/min irregularly regular, BP was 100/70 mm Hg. His systemic examination was normal and lab investigations were normal. The elder daughter, 18-year-old female, came with history of mild grade intermittent fever since 6 days. She consumed the same kadha and was admitted with chief complaints of pain in abdomen, nausea and vomiting. On examination, she was afebrile, Pulse was 76/min irregularly regular, BP was 100/70 mm Hg. Her systemic examination was normal and lab investigations were normal.

Son, 18-year-old male, gave history of mild grade intermittent fever since 2 days. He consumed the same kadha and came with chief complaints of pain in abdomen, nausea and vomiting. On examination, he was afebrile, Pulse was 96/min irregularly regular, BP was 100/70 mm Hg. His systemic examination was normal and lab investigations were normal. The elder daughter, 18-year-old female, came with history of mild grade intermittent fever since 6 days. She also consumed the same kadha and was admitted with chief complaints of pain in abdomen, nausea and vomiting. On examination, she was afebrile, Pulse was 76/min irregularly regular, BP was 100/70 mm Hg. Respiratory system examination was normal, abdominal examination showed tenderness in epigastric region. On CNS examination, she was drowsy but arousable. Cranial nerves were normal. Tone was increased in all limbs. Power was grade 3 at all joints. Reflexes were 3+. Plants were flexors. Her lab reports were normal except for hyperkalemia which was treated.

EKGs of all patients showed various arrhythmias and blocks like Mobitz type I, Mobitz type II, Junctional rhythm. 1st degree HB, AV dissociation, atrial fibrillation and Ventricular tachycardia. In view of various arrhythmias and blocks, digitalis toxicity was considered and Digoxin levels were done. The values for father were 0.87, daughter was 0.3 and son was 0.2 nmol/liter respectively.

We also did CPK-MB levels for all of them in thinking of myocarditis and the levels were as follows – father 1159/45, daughter 1 383/34, son 136/20 and the other daughter 1152 U/litre. The levels after 3 days were 3/20, 52/21 and 114/11 for the father, daughter and the son respectively. Normal level for CPK is 2 to 26 U/litre. CPK-MB is 2 to 26 U/litre.

Two of our patients had unusual features like Hypertonia and hyporeflexia and subtle higher function derangement which are not mentioned in literature. Treatment is mainly supportive with management of arrhythmias. There is only one reported case of human toxicity from India, otherwise there is no available data on human poisoning in literature after 1964. All the above mentioned clinical and histopathological findings are based on animal studies.

We therefore are reporting this case to highlight the fact that whenever any patient comes with unexplained arrhythmias and hypotension, poisoning due to Cryptostegia grandiflora must be kept in mind and the patient should be questioned about herbal compound intake.

TREATMENT: Patients were treated in MICU with ECG and Electrolyte monitoring regularly. Hyperkalemia was treated with Glucose insulin drip. Patients were also given IV Fluids, Inj Hydrocortisone, Tab Allupent & sos Inj Atropine. Patients also received ayurvedic detoxification by ayurvedic experts. The elder daughter who was maintaining heart rate between 70-110 beats per minute suddenly developed Hypotension. She had sudden Ventricular Tachycardia. She received DC cardioversion and was put on Inj Amiodarone. She was also paced but developed resistant Ventricular Tachycardia and did not respond and unfortunately succumbed. The father, younger daughter and son improved clinically with appropriate ECG response which subsequently normalized and were discharged. Since the patient consumed three herbs we took help from professors of Ayurveda Department of our institute and Ashtanga Ayurveda Mahavidyalaya Pune who also tried ayurvedic detoxication.

DISCUSSION

Cryptostegia Grandiflora (Indian rubbervine) is Perennial climber widely distributed in Madagascar, Florida and India. Its medicinal uses are as purgative, analgesic, wound healing remedies, antioxidant, antiviral, and for treatment of schistosomiasis. The Toxic principle is called a cardiac glycoside (cryptostigmin I-V). Clinical features include dyspnea, colic, profuse sweating, muscle twitching and weakness and Severe cardiac arrhythmias. On Histopathology the findings are Epicardial and endocardial hemorrhages, congestion of liver, kidneys, spleen and lungs. Also seen are Subcapsular hemorrhages in spleen & liver and hyperemia of gastric & intestinal mucosa.

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We therefore are reporting this case to highlight the fact that whenever any patient comes with unexplained arrhythmias and hypotension, poisoning due to Cryptostegia grandiflora must be kept in mind and the patient should be questioned about herbal compound intake.

AUTHENTICATION SERVICE: Botany branch.

KEYWORDS: Cryptostegia grandiflora, cardiac glycosides, arrhythmias, digitalis
REFERENCE


Junctional Rhythm

First degree Heart Block

Mobitz type II, block Digitalis effect

Ventricular Tachycardia