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CASE REPORT

Unknown Herbal Poisoning with Fatal Outcome

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Abstract

Background: Herbs can be toxic and may be even life-threatening. The mixture of different plants and herbs made by traditional healer and their canvassing on the street attract general people. Here, we report four cases of severe herbal poisoning.
Case presentation: In 2008, four young people rushed to DMC Hospital in the early morning with a history of taking herbal medicine (tonic) on that night for gratification. About 3–4 h after ingestion, they experienced repeated vomiting and abdominal pain. Two patients deteriorated within the hours after admission with restlessness, progressive unconsciousness, and died soon after. The other two patients absconded from the hospital, including the person who prepared the tonic. Screening of the tonic by gas chromatography-mass spectrometry did not reveal toxic components.
Discussion: The suspected herbs used for the preparation of that tonic were Santalum album (Chandan wood) which contains Santalol and other etheric oils; Plantago ovata (Ispaghula Husk) containing diverse alkaloids, phenols, etc.; and Mimosa pudica which is the common Mimosa and contains the alkaloid Mimosine. The nature of the tonic and source of the intoxication could not be finally elucidated.
Conclusion: The described cases of unknown herbal poisoning in Bangladesh highlight the need for awareness campaigns targeting the population at risk.
Keywords: Acute Toxicity; Herbal Drug; Fatal Poisoning; Intensive Care; Public Health

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INTRODUCTION

Herbs are used worldwide for a wide variety of indications and are usually considered to be nontoxic by the general public due to their natural origin. In health care, health professionals, quacks, and other nonmedical professionals, such as witch doctors, dispense herbs for either therapeutic or tonic purposes. This in conjunction with lower costs compared with conventional medications is the major attraction to these treatments. Despite the general belief, upon exposure, the clinical toxicity may vary from mild to severe and may even be life-threatening (1). Here, we report four cases of unknown herbal poisoning with two fatal outcomes.

CASE REPORT

Four young patients rushed to the emergency department of Dhaka Medical College and Hospital (DMC) on July 28th, 2008 in the early morning with the history of taking herbal medicine on that night. All of them were garments workers staying in the same house. One of the victims brought an indigenous medicine book. He prepared an herbal tonic according to the instruction of that book for the purpose of getting gratification and power for masculinity. Pieces of Haritaki (Chebulic myrobalan), Bibhitaki (Beleric myrobalan), Indian Jujube seeds, Chandan wood, Ispaghula Husk, *Mimosa pudica*, and other substances were used for this tonic (Figure 1). They all together took the preparation at the same time, and about 3–4 h after ingestion developed repeated vomiting and intractable abdominal pain. Two patients deteriorated within an hour after admission; rapidly became restless and unconscious. One 35-year-old patient with *Glasgow Coma Scale* (GCS) = 5 developed circulatory depression; blood pressure-70/50 mmHg, gasp in respiration, and died soon after. A 28-year-old patient developed an electrocardiogram-confirmed ventricular tachycardia (Figure 2) with circulatory shock and coma (GCS = 6). He was referred to the coronary care unit but died on that morning in spite of maximum supportive management. The other two patients gradually improved and absconded from the hospital, including the person who prepared the tonic. Screening of this herbal preparation by gas chromatography-mass spectrometry

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did not reveal toxic component(s).

DISCUSSION

An increase in morbidity and mortality associated with the use of poisonous herbs has been reported over the last few years (2). Herbal medicines are associated with a wide spectrum of toxicities (3). Physicians should enquire about the use of such remedies when taking a general medical history, particularly in those patients with unexplained symptoms and organ failure. In most instances, treatment includes stopping the offending agent together with supportive care. In industrialized nations, herbal medicine is now a multi-billion dollar industry, and in developing countries, up to 80% of people rely on plant-based medicines (4).

In traditional medicine, herbs are used only after processing to reduce the amounts of toxic alkaloids. Faulty processing after harvest or during decoction preparation and the use of a greater than recommended dose will increase the risk of acute poisoning (1). Though it is used worldwide, in Bangladesh, its use is especially common because of their easy accessibility, no expensive expert consultation is required, and the herbal remedies are considered safe.

Here, we describe four cases of herbal poisoning in Bangladesh. The herbal tonic was obviously prepared according to instructions in an indigenous medicine book but which herbs were actually used could not be affirmed. For the hypothetical ingredients, it is known from the botanical

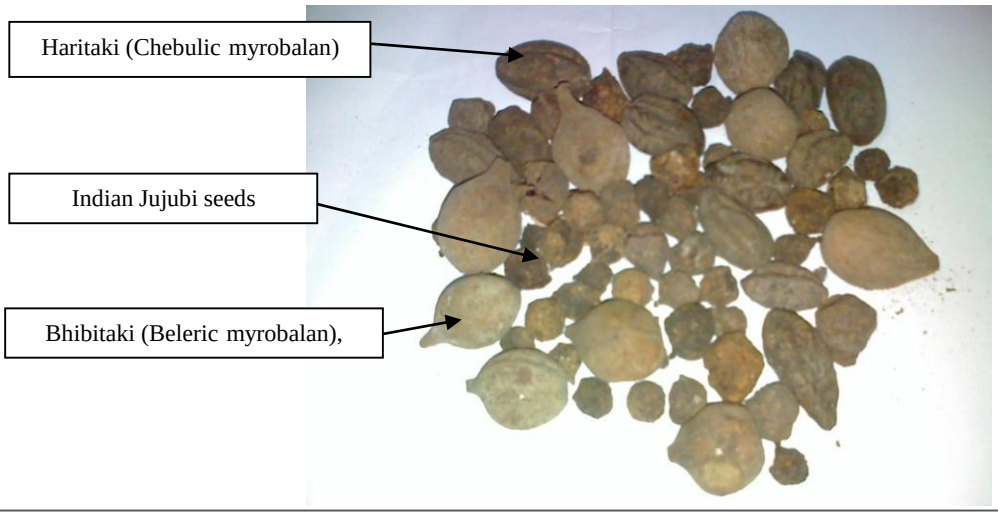

Figure 1. Different ingredients of herbal tonic prepared by an offender

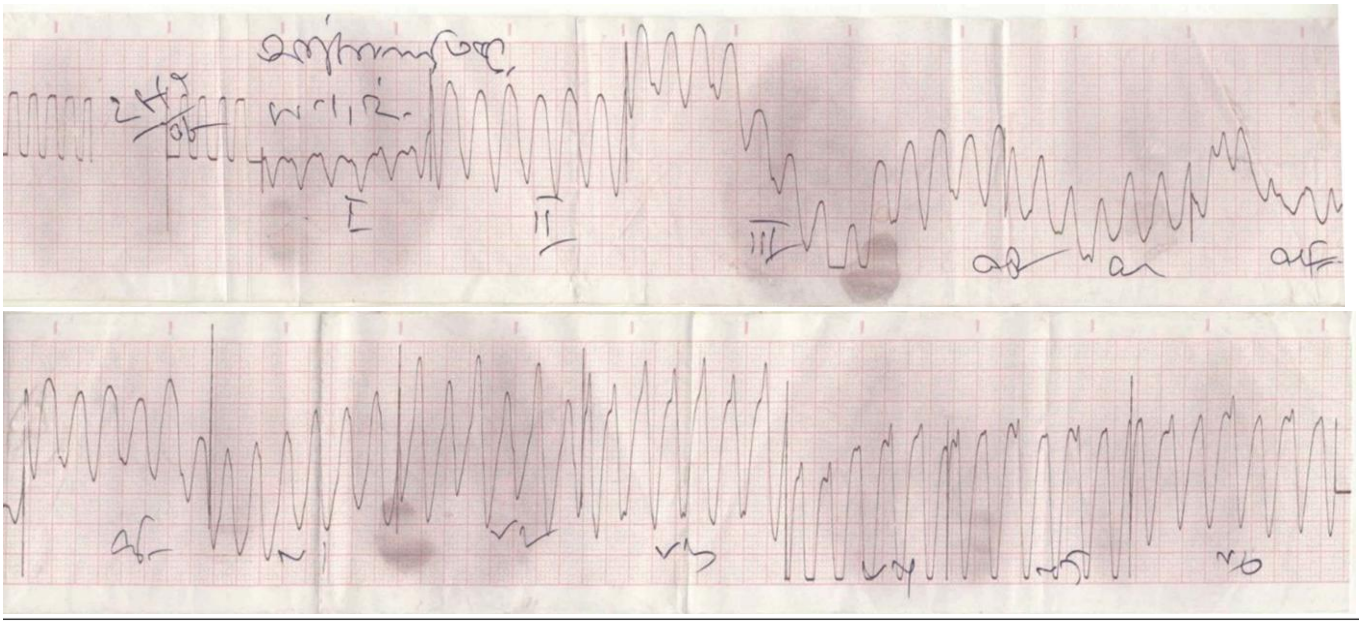

Figure2. ECG showing ventricular tachycardia

literature that *Santalum album*(Chandan wood) contains Santalol and other etheric oils ; *Plantago ovata* (Ispaghula Husk) contains diverse alkaloids, phenols, etc. ; and *M. pudica*, which is the common Mimosa, contains the alkaloid Mimosine; all of which can be toxic by oral uptake in large doses only (5-7).

The identity, authenticity, and quality of crude plants are often uncertain and difficult to assess (5). The quality control is virtually nonexistent; government agencies seem unwilling to adopt any guidelines. Therefore, variability in the amount of active ingredients must be assumed and faults in the processing or mixing of the herbs may occur. In the present cases, a specific therapy or intensive care management scheme could not be established and two of the four persons died. This highlights the need for awareness campaigns targeting the population at risk. It is recommended that all these easily marketed ayurvedic and other techniques are subjected to a separate drug administration department and also increased public awareness to prevent untoward outcomes as described here.

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