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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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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**REFERENCES**