POISONING BY GLORY LILY - A CASE REPORT

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ABSTRACT

People from rural areas who are less accessible to medical health care facilities or those who are ignorant of the facilities, sometimes prefer local hakims for treatment of common ailments. But due to their ignorance of the fact that such practitioners lack scientific expertise, they suffer dire consequences from such primitive therapies. This person who availed therapeutic services from a hakim, ended fatally as a result of overdoses of a root preparation obtained from Glory Lily plant. This paper also outlines the Clinico-Pathological aspects of poisoning by Glory Lily.

Key Words : Poisoning, Glory Lily, Gloriosa superba

INTRODUCTION

Old literature reveals that the root of this plant is used in traditional medicine therapy for treating colicky pain, bruises and also for anti-lice treatment.

The plant profile includes
1. It is a climbing hedge plant growing all over India.
2. Scientific name : Gloriosa superba L
3. Common names : Glory Lily, Morning Glory, Flame lily, Agnimukhi, etc.

All parts of this plant are poisonous and especially the roots are highly poisonous. The active principle constituents includes highly active alkaloids like Colchicine, Gloriosine, Superbrine (a glycoside), Chelidonic acid and Salicylic acid.

Circumstances of poisoning results due to overdoses from traditional medicine preparation used to treat ailments like sprain, bruises, colicky pain etc. It is also seen during its application to procure illegal abortion or deliberate ingestion for committing suicide.

Mode of poisonous action is attributed to its Anti-mitotic activity that arrests mitosis in metaphase. Cells with high turnover and high metabolic rate like Intestinal epithelium, hair follicle, bone marrow cells, etc are highly susceptible. Lethal dose is about 60 mg in adult and the Fatal period is about 12 - 72 hrs.

Clinical profile of poisoning includes appearance of acute manifestations within 2 - 6 hrs of ingestion with burning pain in mouth, nausea, intense vomiting, severe bloody diarrhea, delirium, loss of consciousness, convulsions followed by multi-organ failure with respiratory distress, coagulopathy, renal failure and progressive polyneuropathy within 12 - 36 hrs.

Fatal complications that leads to death includes hemorrhagic complications, Multi-organ failure and infective complications.

CASE HISTORY & AUTOPSY FINDINGS

A male person, aged 23 yrs was alleged to be suffering from stomach ailment for the past few days. As the history suggested by relatives, he had gone to a hakim for getting treatment, where he was advised to take a preparation made out of roots of a plant. He had presumably taken a higher dose than necessary to get prompt relief.

Following ingestion, within 7 - 8 hrs, he started having burning pain in stomach followed by severe vomiting and blood tinged diarrhea. He was shifted to the hospital and was admitted in a state of unconsciousness, hypovolemic shock, and subconjunctival hemorrhage, petechial hemorrhages over the chest and abdomen externally. Internal findings include
inflammation of the stomach wall with punctate hemorrhagic points over posterior wall and lesser curvature, petechial hemorrhages over epicardial surface of heart, lower lobes of lungs and white matter of cerebral hemispheres.

Stomach contents along with other usual organs and gastric lavage fluid were sent for chemical examination that did not reveal any common poisons. On further enquiry and request to the police and relatives, the root along with the whole plant was produced which was identified to be 'Glory Lily'.

**MANAGEMENT PROTOCOL**

**General principles**

Hospitalize the patient immediately.

Constant and prolonged monitoring is essential. Ensure adequate ventilation.

Before instituting symptomatic and supportive therapy remove the plant material from gastrointestinal tract by emesis or gastric lavage without delay to minimize further absorption.

Give adequate intravenous fluids. Correct any electrolyte imbalance. Maintain a fluid balance chart.

Specific measures should also be taken for the management of shock. Cardiac monitoring is useful. Early forced diuresis may be of value.

**Specific treatment**

If respiratory depression is present assisted ventilation and oxygen may be necessary.

Renal failure with oliguria is a common feature. Maintain an adequate urine output with plenty of intravenous fluids. Established renal failure may require peritoneal or hemodialysis.

Fresh blood transfusions are necessary to correct leucopenia. If clotting time is abnormal, vitamin K and fresh frozen plasma should be given. Hemorrhagic manifestations should be treated with fresh blood transfusions.

Prophylactic antibiotic therapy is advisable.

**DISCUSSION**

Colchicine alkaloid is the key active ingredient that is responsible for the toxicity from this plant. The alkaloid has got very narrow therapeutic index and thereby a slight over dose results in acute poisoning. It is associated with high rate of morbidity and mortality and the potential seriousness of intoxication is often underestimated during clinical presentation.

Though it has got anti-mitotic activity, it does not account for the multi-organ failure in severe toxicity. They probably result from some less understood micro-tubular functions associated with intracellular transport network, extracellular secretion of hormones, neurotransmitters and cytoplasmic motility.

The early symptomatology can be mistaken for Gastro-enteritis, or acute abdomen, and the late manifestation can mimic hypovolemic, septic or cardiogenic shock. Thus a high degree of suspiciousness and accurate history is required to start the therapy along the right direction.

**CONCLUSION**

The key points to save the person from the toxic effects includes a high degree of suspicion of poisoning, accurate history and early recognition of potential severe toxicity. All patients require immediate hospitalization and prompt treatment with aggressive supportive therapy, is the need of the hour. People should be made more aware of not going for such dangerous, unregulated, non-tested remedies, and thus save themselves from the toxic effects.

**References**