

Case Report

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Mad Honey (Grayanotoxin) Poisoning Presenting with Severe Hypotension and Syncope: A Case Report

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ABSTRACT

Mad honey poisoning is a relatively common clinical condition in regions where *Rhododendron* species are widespread, particularly in the Black Sea region of Turkey. It is caused by grayanotoxins found in certain types of honey and typically presents with cardiovascular and neurological symptoms such as bradycardia, hypotension, dizziness, and syncope.

We present a 46-year-old male patient admitted to the emergency department with dizziness and syncope following ingestion of honey obtained from the Black Sea region. On admission, he had severe hypotension and bradycardia. Despite initial treatment with intravenous fluids and atropine, vasopressor support was required. The patient responded well to treatment and was discharged without complications.

This case highlights the importance of considering mad honey poisoning in patients presenting with unexplained bradycardia and hypotension, especially in endemic areas.

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Introduction

Mad honey poisoning is a well-known clinical condition in regions where *Rhododendron* species grow naturally, particularly along the Black Sea coast of Turkey [1]. Honey produced from these plants contains grayanotoxins, which are responsible for the toxic effects seen after ingestion [2,3].

Grayanotoxins act on voltage-gated sodium channels and prevent their inactivation, leading to prolonged depolarization of excitable cells. This results in increased vagal activity and produces the characteristic findings of bradycardia and hypotension [4].

Although most cases are mild and resolve with supportive treatment, severe cases may present with syncope and marked hemodynamic instability [5].

Case Presentation

A 46-year-old male patient was brought to the emergency department due to dizziness and syncope. According to the history obtained from his spouse, he had consumed approximately one teaspoon of honey obtained from the Black Sea region.

On admission, vital signs revealed a heart rate of 45 beats/min and blood pressure of 50/30 mmHg.

Arterial blood gas analysis showed a pH of 7.35, pCO₂ of 51 mmHg, and pO₂ of 31 mmHg. Lactate was elevated at 3.5 mmol/L,

indicating hypoperfusion. Blood glucose was 175 mg/dL. Biochemical analysis revealed normal renal and liver function parameters. Electrolytes were within normal limits. Coagulation tests were also normal (INR 1.07).

Electrocardiography demonstrated sinus bradycardia. Initial treatment included intravenous fluids and 1 mg atropine. Due to persistent hypotension, vasopressor therapy was initiated. The patient's rhythm returned to normal sinus rhythm, and blood pressure gradually improved. He was hospitalized for monitoring and discharged after stabilization.

Discussion

Mad honey poisoning is an important clinical entity in endemic regions and is primarily associated with the ingestion of grayanotoxin-containing honey [1,2]. These toxins interfere with sodium channel function, leading to increased vagal tone and subsequent cardiovascular effects [4].

The most common clinical findings include bradycardia, hypotension, dizziness, and syncope [3]. In severe cases, atrioventricular block and profound hypotension may occur [6]. The amount of honey consumed does not always correlate with symptom severity, as toxin concentration may vary significantly [7]. Even small amounts can result in severe clinical manifestations, as seen in our patient.

Diagnosis is primarily based on clinical suspicion and a detailed patient history [8]. In regions where mad honey is commonly consumed, physicians should maintain a high index of suspicion.

Treatment is mainly supportive. Intravenous fluids are used to correct hypotension, while atropine is effective for bradycardia [6]. In refractory cases, vasopressor agents may be required [9].

The prognosis is generally favorable, and most patients recover within 24–48 hours [10]. However, severe cases require close monitoring due to the risk of cardiovascular complications.

Conclusion

Mad honey poisoning should be considered in the differential diagnosis of unexplained bradycardia and hypotension, particularly in endemic regions. Early recognition and appropriate supportive treatment are essential for favorable outcomes.

Ethics Statement

Written informed consent was obtained from the patient

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