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Case Report

An Uncommon Cause of MINOCA: Mad Honey Poisoning

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Abstract

Consumption of grayanotoxin-containing honey that is produced from flowers of the Rhododendron family causes mad honey intoxication, in other words grayanotoxin poisoning (1). This flower family grows in Japan, Nepal, Brazil, parts of North America, and the eastern Black Sea region of Turkey. Grayanotoxin is accountable for clinical presentation. Dose-dependent, grayanotoxin causes different clinical conditions from dizziness, hypotension, and bradycardia to impaired consciousness, syncope, atrioventricular block, and asystole due to vagal stimulation. (2). But consumption of mad honey is a rare cause of acute coronary syndrome. Herein, we present the case of a 49-year-old man who presented to hospital with dizziness whose electrocardiogram (ECG) shows sign of acute inferior myocardial infarction after consumption of mad honey.

Introduction

Consumption of grayanotoxin-containing honey that is produced from flowers of the Rhododendron family causes mad honey intoxication, in other words grayanotoxin poisoning (1). This flower family grows in Japan, Nepal, Brazil, parts of North America, and the eastern Black Sea region of Turkey. Grayanotoxin is accountable for clinical presentation. Dose-dependent, grayanotoxin causes different clinical conditions from dizziness, hypotension, and bradycardia to impaired consciousness, syncope, atrioventricular block, and asystole due to vagal stimulation. (2). But consumption of mad honey is a rare cause of acute coronary syndrome. Herein, we present the case of a 49-year-old man who presented to hospital with dizziness whose electrocardiogram (ECG) shows sign of acute inferior myocardial infarction after consumption of mad honey.

Case Report

In May 2020, a 49-year-old man was admitted to the Emergency Department (ED) of Recep Tayyip Erdogan University Education and Research Hospital with dizziness, cold sweating and blurred vision. The patient provided written informed consent. There was no chest pain. He said that his complaints began after ingesting 2 tablespoons of mad honey. There was no medical history. He is a smoker for 30 pack-years. The patient's neurological examination was normal. His arterial blood pressure was 70/40 mmHg and heart rate 49 beats/min. The ECG showed ST elevation on DII-DIII-AVF derivations (inferior derivations) and ST depression in aVL derivation (Figure 1). Parenteral fluid infusion with 0.9% sodium chloride (NaCl) (approximately 2000 cc) and 1 mg atropine sulphate was administered. Routine biochemical test, hemogram and cardiac enzymes was checked. He was monitored closely. One hour later arterial blood pressure was 118/70 and heart rate 62 beats/min. Routine blood test including cardiac enzymes were at normal range. The patient's symptoms relieved during following-up at ED. But there were persistence ST elevation on the second ECG. The echocardiography was showed no wall motion abnormalities. Therefore, the patient was admitted to coronary intensive care unit to perform coronary angiography

(Figure 2). In the catheterization laboratory, coronary angiography showed normal coronary arteries (Figure 3). The patient stayed at hospital for 2 days. During discharging hospital, arterial blood pressure was 124/78 and heart rate 63 beats/min. There were no any cardiovascular or neurological symptoms.

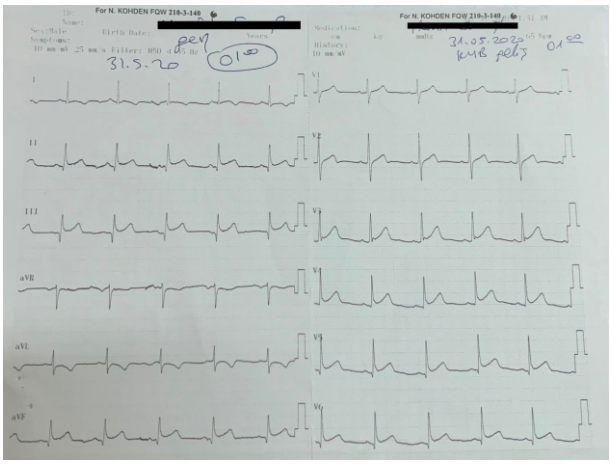

Figure 1. Electrocardiogram of the patient on admission showing ST elevation on DII, DIII, AVF.

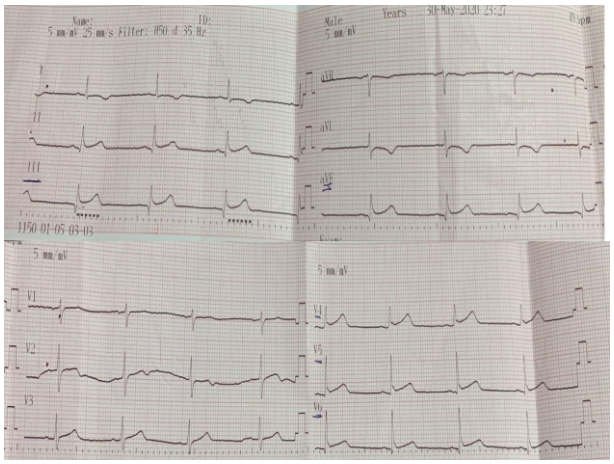

Figure 2. The ECG was taken when the patient is admitted to the coronary intensive care unit

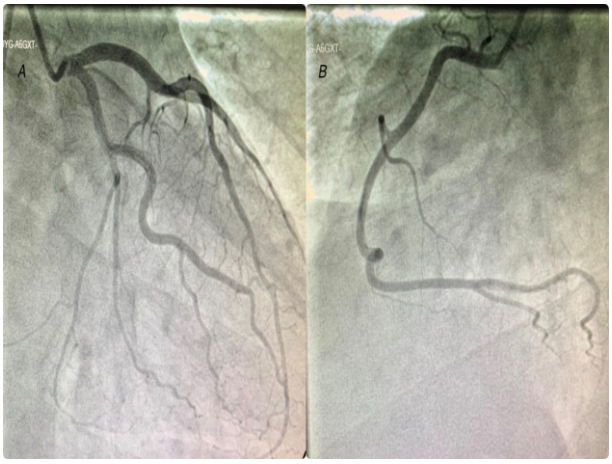

Figure 3. Coronary angiograms showing normal coronary arteries; A) left coronary arteries B) the right coronary artery

Discussion

Mad honey poisoning is a kind of food poisoning that resulted in by the consumption of grayanotoxin. Honey with grayanotoxin produced at some countries including Black Sea region of Turkey. In endemic regions, some people use grayanotoxin as alternative therapy for diverse viral infections and gastrointestinal disorders in so much that a sexual stimulant. Parasympathetic overactivity is characterized by dizziness, hypotension, and cardiac rhythm disorders (eg, sinus bradycardia and atrioventricular blockade). More uncommonly, there have been reported cases of syncope, asystole, diplopia, convulsions and hepatotoxicity caused by mad honey poisoning (3). The cardiotoxic side effects of grayanotoxin appear chiefly from an increase in the sodium channel permeability and activation of the vagus nerve (4). In a large pooled analysis of 69 patients by Gunduz et al, over 95% of all patients experience hypotension and sinus bradycardia (5). In our patients, mad honey poisoning most likely triggered myocardial infarctions (MI) by causing excessive bradycardia and hypotension. After administration saline infusion and atropine, all symptoms relived. There was no endothelial dysfunction, plaque or occlusion in coronary arteries.
To our knowledge, no fatal cases of mad-honey poisoning have been reported since ancient Roman times. Typically, the effects of inadvertent poisoning last no longer than 24 hours, and supportive care is sufficient as treatment. Severely depressed blood pressure usually responds to atropine and saline infusion therapy (2).

Conclusion

Consequently, clinicians should be vigilant of mad honey poisoning as atypical myocardial infarction–like presentations.

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