

Cardiovascular collapse due to wild honey Intoxication: A case report

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Abstract

Background: Wild honey has been traditionally been used by indigenous people for its medicinal, aphrodisiac and hallucinogenic properties in Nepal and some other countries. Wild (mad) honey intoxication is one of the rarest presentations to emergency department and is caused by ingestion of wild honey obtained from the nectar of *Rhododendron* species on the higher altitudes. The cause of mad honey poisoning is the toxin grayanotoxin, found in such wild honey. It can also be caused by consuming the leaves, flowers of *Rhododendron* from Himalayan belt.

Wild honey intoxication has widely been reported from Turkey and the regions around the Black Sea. Some cases have been reported in the few hospitals in Kathmandu and Chitwan. However, such cases have rarely been reported in eastern Nepal. The intoxication might present with mild symptoms of gastrointestinal, cardiovascular and neurological systems or might also present in rare life threatening form with AV block and cardiovascular collapse. Here, we report a case of a seventy three years old man who presented to our emergency department with cardiovascular collapse in the form of severe bradycardia, AV block and hypotension after wild honey consumption.

Key words: AV block, cardiotoxicity, grayanotoxin, Nepal, wild (mad) honey

Introduction

A 73-year-old man of Rai ethnicity was presented in emergency department with the history of sudden onset of multiple episode of vomiting and dizziness (black out), generalized consuming of around 30-40 ml of

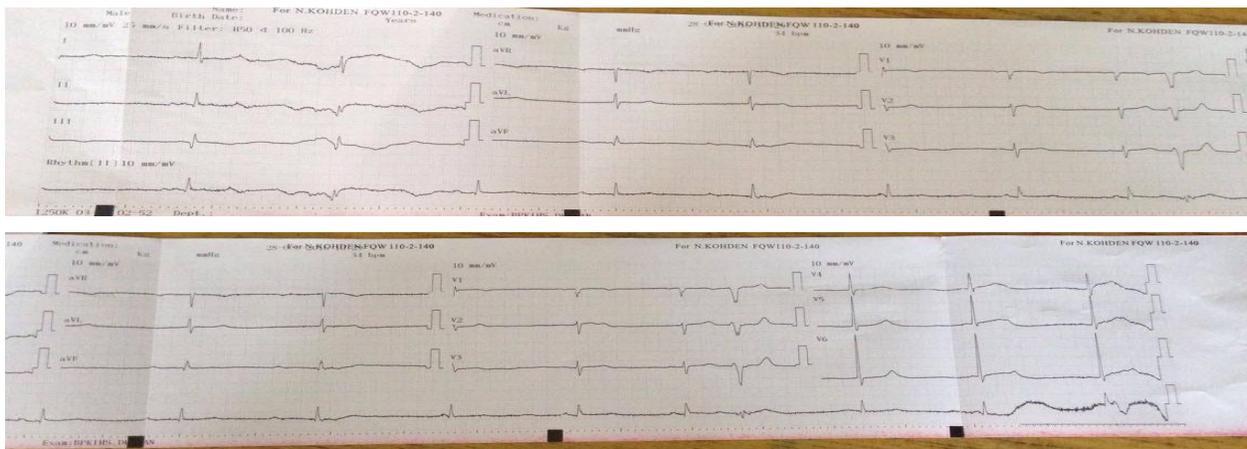
wild honey. While taking detail history, we acknowledged that all these symptoms appeared after weakness after half and hour of ingesting wild honey brought from Taplejung, a Himalayan district of Nepal and was brought immediately to the hospital. There was no history of consumption of any alcohol or drugs, or any other chronic illness. On examination he was not oriented to time,

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place and person. Regarding vital signs, his blood pressure was not recordable, heart rate was 36/min and irregular, temperature was 97.8° F and respiratory rate was 12/min. immediate resuscitation was done with Normal Saline. A 12- lead ECG showed Mobitz type I second degree AV block (Wenckebach phenomenon), with 36/min of ventricular rate, which is shown below. CK – total and CK-MB was within normal limit while Troponin I was negative. Serum potassium concentration was slightly low (2.9 mmol/L) (probably due to multiple episodes of vomiting) and lactate level was 2 mmol/L, where as all other parameters were normal. Simultaneously while resuscitating the patient with normal saline, he was given inj. Atropine

1mg intravenously immediately after his arrival and after 5 minutes of the 1st dose. He was also given 0.5 mg of inj. Adrenaline intramuscular. After administering two liters of normal saline, his blood pressure rose up to 100/60 mm of Hg, pulse rate was at first 120/min which then gradually stabilized to 78/min and patient became responsive to external stimuli. Vasopressor agents were not required to be used in our patient. He was kept under cardiac monitoring in the medicine ward with maintenance fluid and potassium supplementation; and was discharged after 48 hours of observation with normal sinus rhythm and stable vital signs.



Discussion

Many people from Turkey, Nepal and other parts of the world consume wild honey as an alternative medicine for the treatment of gastric pains, bowel disorders, and

hypertension, and it is also believed to be a sexual stimulant. Toxic effects on body are due to the toxin-grayanotoxin present in such honey which are found in the pollens of rhododendron and spread by wild bees. The

toxin binds to the receptor site in voltage gated sodium channels within the cell, preventing sodium channel inactivation causing depolarization leading to vagal activation (M2 receptor in myocardium) inducing bradycardia.

The toxic effects of honey poisoning are dose dependent, rarely fatal and generally last for no more than 24 hours. In mild form, dizziness, weakness, excessive perspiration, hypersalivation, nausea, vomiting and paresthesias are present and close follow-up is enough. However, severe intoxication may lead to life threatening cardiac complications such as complete AV block, extreme hypotension and severe bradycardia; and which can be treated with timely recognition of the condition, resuscitation with intravenous fluids, and judicious use of atropine, adrenaline and Vasopressor agents. Sometimes, cardiac pacing may be needed for the resistant cases.

Conclusion

Clinical features following the ingestion of the wild honey is the basis for the diagnosis. Timely and proper recognition of the condition and appropriate intervention using fluids, atropine and adrenaline can be life-saving in severe intoxications. As honey is a commonly used food in our daily life, more studies are required to explore its potential life

threatening effects, their prevention and treatment.

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