International Research Journal of Basic and Clinical Studies Vol. 2(5) pp. 53-54, May 2014
DOI: http:/dx.doi.org/10.14303/irjbcs.2014.019
Available online http://www.interesjournals.org/IRJBCS

Case Report

An Unusual Clinical Case of Bradycardia and Confusion: Mad-Honey Intoxication by Grayanotoxin

Fatih Sahpaz[1], Kemal Turker Ulutas*[2], Atilla Aydin[3]

[1]Kadirli State Hospital, Department of Internal Medicine, Kadirli, Osmaniye, Turkey
[2]Kadirli State Hospital, Department of Clinical Biochemistry, Kadirli, Osmaniye, Turkey
[3]Gulhane Military Medical Academy, Department of Emergency Medicine, Ankara
*Corresponding authors email: drkemalturker@gmail.com

ABSTRACT

The toxication by mad honey is a special toxication as a result of resuming of honey produced by pollen and nectars founding in the flowers and leaves of rhododendron pontic. It is commonly seen especially in Black-Sea and South-East regions of Turkey, due to use of mad money as an alternative treatment. However, there is not such a case reported in Kadirli region by literature. In this study, we reported a 55-years-old patient, applying to our emergency department, with the complaints of vertigo, nausea-vomiting, feeling of fainting, dyspepsia and headache. Bradycardia and hypotension observed by first fast examination of the patient. We acknowledged that he had ate three tablespoons of mad-tasted-honey at the early-morning. In the case report, we aimed to discuss the diagnosis and treatment of mad-honey intoxication in the lightening of current literature, never seen in Kadirli region of Turkey before.

Keywords: Bradycardia, grayanotoxin, mad-honey intoxication

INTRODUCTION

Mad honey is used in the Black Sea region as an alternative medicine in the treatment of gastric pain, bowel disorders, and hypertension, and it is also thought to be a sexual stimulant. The majority of studies in the literature on mad honey intoxication have been from Turkey. It is because honey has been manufactured from in the northern parts of Turkey (Koca I and Koca AF, 2007).

Grayanotoxin is found only in Ericaceae type of plants and is considered to be the particular species responsible for intoxications. Mad honey might cause bradycardia, atrioventricular block, and arterial hypotension and lead to fetal consequences when left untreated. However, no cases have been reported to lead to death in the literature since the hypotension and bradycardia observed in the clinical course of this pathology respond to medical treatment. Symptoms have an acute onset and their fading takes longer than 24 h (Onat F et al., 1991).

In this case report, our aim was to report the clinical and demographic features of patient diagnosed with mad honey intoxication at the emergency department in south region of Turkey.

Case

In March 2010, a 55-year-old man patient was admitted to our emergency department with sudden development of consciousness, nausea, vomiting, and general weakness. Upon history-taking from patient's relatives, we learned that the symptoms had begun within 2 hours of eating a few spoons of honey, which was known as "mad-honey", Turkish honey from the Black Sea coast of Turkey. He had no history of heart disease or drug use. His consciousness was not clear unlike patients with this type. Initial physical examination showed that he had bradycardia and hypotension (arterial blood pressure 70/40 mm Hg). His body temperature was 36°C. Surface

Electrocardiography revealed sinus bradycardia, with a ventricular rate of 32 beats / min.

Blood examination showed normal cardiac enzymes and electrolyte values. Bolus 0.5 mg of atropine and parenteral fluid were applied via intravenous way. The patient's heart rate and blood pressure returned to normal limits within nine minutes; sinus rhythm was restored rapidly. Intravenous %0.9 sodium chloride infusion (100 cc/h) was continued for 24 hours. He was monitored for 24 hours, during monitoring no arrhythmia or bradycardia were seen after 8th hour. His symptoms improved with conservative management, which comprised bed rest and intravenous fluid therapy and as the clinical condition had stabilized, he was discharged from hospital with 92 beats/min heart rate and normal sinus rhythm.

DISCUSSION

Rhododendron ponticum, a member of the botanical family Ericaceae, grows extensively on the mountains of the eastern Black Sea area of Turkey. Grayanotoxin is a natural product derived from the plants belonging to Ericaceae family. "Mad-honey intoxication" may occur after ingestion of grayanotoxin contaminated honey. Mad honey is used in the Black Sea region as an alternative medicine for the treatment of gastric pains, bowel disorders, hypertension, and it is believed to be a sexual stimulant. Our case had been using this honey as an alternative therapy for the sexual stimulant (Demir H et al., 2011).

Grayanotoxin has toxic effects on natrium channels and binds to sodium channels in the cell membrane, which are involved in voltage dependent activation, and it prevents inactivation. This maintains cells in a depolarized state, in which they behave like cholinergic agents and cause dose-dependent hypotension, bradycardia and respiratory-rate depression (Jansen SA et al., 2012).

Mad honey intoxication of diagnosis is reached upon patient's history of honey intake. Appropriate fluid replacement and low dose atropine improve both bradycardia and respiratory rate depression and should generally be sufficient for the treatment (Demir H et al., 2011 and Sahin and Altintas, 2011). We treated our patient using atropine, along with the administration of sodium chloride infusion, and the patient fully recovered. We believe that, the treatment should consist of outpatient rest and reassurance; a short observation period with outpatient follow-up is appropriate in the majority of patients.

CONCLUSION

Although Mad Honey toxicity is rare, its clinical manifestations and cardiac rhythm problems may occur in various states including atrial fibrillation with severe bradycardia. Generally, supportive care is sufficient as a treatment for `mad-honey` intoxication.

REFERENCES

Koca I, Koca AF (2007). Poisoning by mad honey: a brief review. Food and chemical toxicology : An International journal published for the British Industrial Biological Research Association. 45(8):1315-8.

Onat F, Yegen BC, Lawrence R, Oktay A, Oktay S (1991). Site of action of grayanotoxins in mad honey in rats. J. App. Toxic. (JAT). 11(3):199-201.

Demir H, Denizbasi A, Onur O (2011). Mad honey intoxication: a case series of 21 patients. ISRN toxicology.:526426.

Jansen SA, Kleerekooper I, Hofman ZL, Kappen IF, Stary-Weinzinger A, Van Der Heyden MA (2012). Grayanotoxin poisoning: 'mad honey disease' and beyond. Cardiovascular toxicology.12(3):208-15.

Sahin Kavakli H, Altintas ND (2011). A rare cause of severe bradycardia and hypotension: mad honey poisining. Acta clinica Belgica. 66(2):152.

How to cite this article: Sahpaz F., Ulutas K.T, Aydin A. (2014). An Unusual Clinical Case of Bradycardia and Confusion: Mad-Honey Intoxication by Grayanotoxin. Int. Res.J. Basic Clin. Stud. 2(5):53-54