An unusual clinical state: atrial fibrillation due to mad-honey intoxication

Nadir bir klinik durum: Deli bal zehirlenmesine bağlı gelişen atriyal fibrilasyon

Introduction

The honey which is produced in the Karadeniz Region of Turkey and known as the ``mad honey`` contains Rhododendron ponticum nectar. Grayanotoxin is only produced by Ericaceae plants and thought to be responsible for toxicity. The typical symptoms are gastrointestinal and may sometimes cause cardiac complications, such as severe bradycardia and hypotension. In our case, we report a patient with unusual cardiac toxicity symptom such as atrial fibrillation, following ``mad honey`` ingestion and give a review of clinical presentation and treatment of grayanotoxin poisoning.

Case Report

In March 2010, a 53-year-old man was admitted to our emergency department with sudden development of nausea, vomiting, 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 a history of gastric ulcer and no history of heart disease or drug use. His consciousness was clear. 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 atrial fibrillation, with a ventricular rate of 30 beats/min (Fig. 1). Blood examination showed normal cardiac enzymes and electrolyte values. The patient was given 0.5 mg of atropine, and parenteral fluid was administered. The patient's heart rate and blood pressure returned to normal limits within twenty minutes; sinus rhythm was restored rapidly. Intravenous 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. Transthoracic echocardiography showed normal left ventricular systolic function without any regional wall motion abnormality. 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 on the next day with 90 beats/min heart rate and normal sinus rhythm. (Fig. 2)

Discussion

Rhododendron ponticum, a member of the botanical family Ericaceae, grows extensively on the mountains of the eastern Black Sea area of Turkey (1).

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 (2).

Our case had been using this honey as an alternative therapy for the treatment of his gastric ulcer.

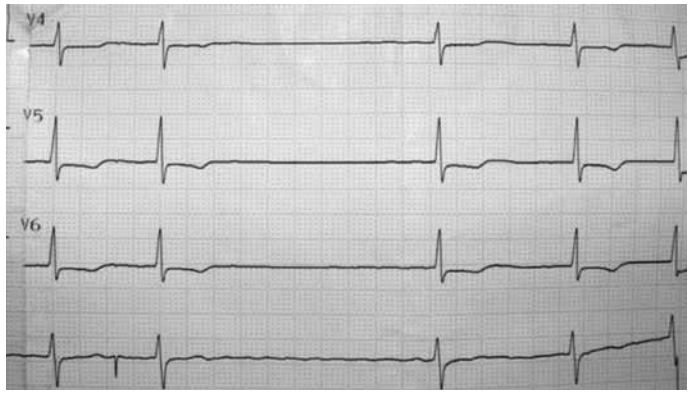

Figure 1. Electrocardiogram: atrial fibrillation, with slow ventricular response

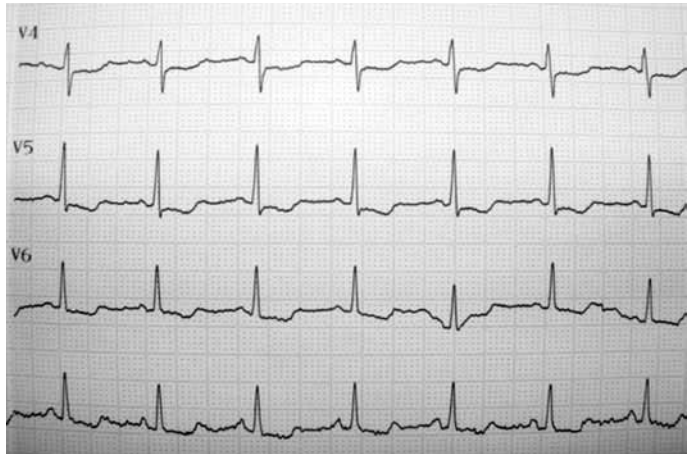

Figure 2. Electrocardiogram: normal sinus rhythm

Grayanotoxin has toxic effects on Na channels. The toxin binds to sodium channels in the cell membrane, which are involved in voltage-dependent activation and inactivation, and it prevents inactivation. This maintains excitable cells in a depolarized state, in which they behave like cholinergic agents and cause dose-dependent hypotension, bradycardia and respiratory-rate depression (3).

Mortal cardiac rhythms such as complete atrioventricular block and a systole have also been reported (4). Our case's importance is the report of atrial fibrillation with slow ventricular response due to grayanotoxin poisoning and our case is the first report in national literature.

Mad honey intoxication is generally a benign condition. The diagnosis is generally reached upon learning the 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. In the event of atrioventricular block, intravenous atropine sulfate can usually restore sinus rhythm, but in some refractory cases, vasopressor agents or a temporary pacemaker may be needed (5). 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 the Black Sea Honey (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.

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Ailesel arteriyel tortuosite sendromu

Familial arterial tortuosity syndrome

Giriş

Arteriyel tortuosite sendromu (ATS; MIM 208050) büyük ve orta çaplı arterlerde elongasyon, tortuosite` ve anevrizma gelişimi ile karakterize, nadir görülen otozomal resesif geçişli bir konnektif doku hastalığıdır. Tipik dismorfik özelliklerinin yanında pulmoner arterler ve aortada fokal stenozlar sonucu pulmoner ve sistemik hipertansiyon hastalığa eşlik edebilmektedir (1). Aynı aileden üç olguyu klinik ve radyolojik özellikleri ile sunmayı uygun bulduk.

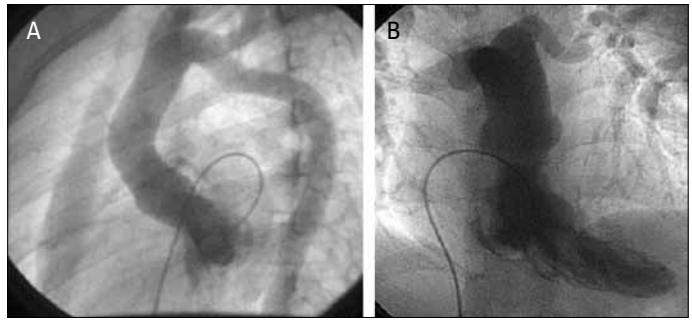
Olgu Sunumu

On bir yaşında erkek olgu üfürüm etiyolojisi nedeniyle başvurdu. Fizik muayenede boyu 146 cm (%50-75), vücut ağırlığı 33.5 kg (%25-50), TA: 120/90 mmHg (90. persentil: 119/78 mmHg), nabız: 72/dk, sternum sol üst kenarda 2/6 sistolik üfürüm yanında dismorfik görünüm (dar ve uzun yüz, sivri burun, mikroftalmi, aşağı eğimli palpebral fissürler, büyük kulaklar, dar ve yüksek damak, mikrognati, uzun filtrum), miyopi, gevşek cilt yapısı ve eklemlerde elastikiyet mevcuttu. Özgeçmişinde 45 günlükken pilor stenozu ve 1. 5 yaşında hipospadias operasyonu öyküsü olan ve psikomotor gelişimi normal olan olgumuzun ebeveynleri arasında 3. derece akrabalık mevcuttu. Fenotipik olarak olgumuza benzeyen babanın çocukluk döneminde ingiunal herni operasyonu geçirdiği ve erkek kardeşin konjenital kalp hastalığı (arkus aorta anomalisi) nedeniyle izlendiği öğrenildi. Ekokardiyografide arkus aortada elongasyon ve Tortuos görünüm, küçük atriyal septal defekt ve 4. derece triküspit yetmezliği saptandı. Kateterizasyonda Qp/Qs=1, basınçlar pulmoner arterlerde 110/50 (60) mmHg, sağ ventrikülde 110/0-10 mmHg, aortada 130/0-10 mmHg bulundu. Sineanjiyografilerde transvers aortanın aşağı yerleşimli ve elonge görünümde olduğu, sefalik damarlarda dallanma anomalisi bulunduğu, ana pulmoner arterin ve sağ pulmoner arterin geniş, sol pulmoner arterin ise elonge ve tortuos yapıda olduğu ve pulmoner arter yatağında fokal darlıkların olduğu görüldü (Resim 1a,b). Çok kesitli bilgisayarlı tomografi (BT)'de aorta sefalik damarlar ve pulmoner arterde yaygın arteriyel Tortuosite varlığı saptandı. Hastaya pulmoner hipertansiyon nedeniyle düşük doz salisilat ve sistemik hipertansiyona yönelik enalapril başlandı.

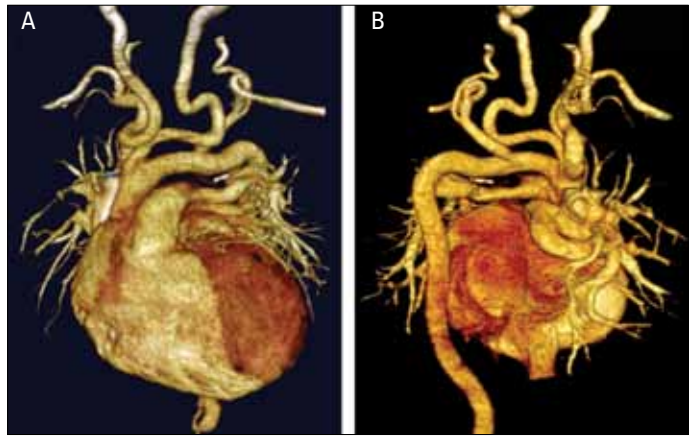
Benzer dismorfik bulguları olan olgumuzun babası ve kardeşinde de ailesel ATS düşünülerek BT tetkikleri yapıldı ve kardeşinde (Resim 2a,b) ve babada (Resim 3a,b) yaygın arteriyel tortuosite varlığı saptandı. Her iki olguda da klinik, EKG ve ekokardiyografik olarak kalp yetmezliği bulguları mevcut değildi ve efor kapasiteleri normal sınırlar içinde bulundu. Olguların tümünde açlık kan glikoz ve lipit düzeyleri normal saptandı. Ancak babaya daha önce gut hastalığı tanısı konulduğu, ürik asit düzeyinin 10.5 mg/dL iken allopürinol tedavisi ile 4 mg/dL'ye düştüğü öğrenildi. Çocuklarda hiperürisemi saptanmadı.

Tartışma

Arteriyel Tortuosite sendromu sistemik ve pulmoner arterlerde yaygın tortuosite, elongasyon ve/veya anevrizma formasyonları ile karakterize nadir görülen bir konnektif doku hastalığıdır. Aorta ve dalları yanın-



Resim 1. A) Sineanjiyografi: transvers aortanın elonge görünümde olduğu, sefalik damarlarda dallanma anomalisi görülüyor; B) Sineanjiyografi: ana pulmoner arterin ve sağ pulmoner arterin geniş, sol pulmoner arterin ise elonge ve tortuos yapıda olduğu ve pulmoner arter yatağında fokal darlıkların olduğu görülüyor



Resim 2. A, B) Bilgisayarli tomografi: -Büyük ana damarlarda ve sefalik damarlarda yaygın arteriyel tortuosite görülüyor