The Presentation of 66 Cases with Honey Intoxication

BAL İNTOKSİKASYONLU 66 VAKANIN TAKDİMİ

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Summary

66 patients who consumed small amount of honey were hospitalized with the findings of hypotension and bradycardia. These findings were completely recovered with the treatment of intravenous fluid and atropine in 24 hours and no case died. The interesting point of this series is the appearance of a big number of honey intoxication cases in a short period of time in two small towns of Black Sea region part of Turkey. Our findings related with honey intoxication were also compared with the literature findings.

Key Words: Mad Honey, Intoxication

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Özet

Küçük miktarda bal tüketiminden sonra hipotansiyon ve bradikardi şikayeti ile hasta/ianeye başvuran 66 hasta değerlendirmeye alındı. Hastaların büyük çoğunluğunu yaklaşık iki yıllık bir zaman diliminde Karadeniz Bölgesi 'ndeki küçük bir bölgede (Kastomonu iline bağlı iki ilçe bölgesi) yaşayan hastalarda oluşturdu. İV sıvı ve atropin tedavisi ile bulguların hepsi 24 saat içinde normale döndü. Hiçbir hasta ölmedi. Elde edilen bulgular literatürdeki bulgular ile karşılaştırıldı.

Anahtar Kelimeler: Deli balı, İntoksikasyon

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Honey intoxication occurs following intake of honey produced from the nectar of Rhododendron ponticum. The toxin causing this picture which was named as mad honey intoxication by the rural people is Andromedotoxin (Grayanotoxin). This is a polyhydroxylated cyclic hydrocarbon that does not contain nitrogen. The cases of the intoxication were reported in several regions of the world. Among these regions, the countries such as Turkey, Japan, Nepal, North America,Brazil can be counted.The first honey intoxication cases were observed by Xenophan as a result of the consumption of the honey produced near Trabzon by the soldiers (1). Later, Biberoglu et al. has published a series of 16 cases from the eastern Blacksea region part of Turkey (2). Onat et al. developed the similar findings in rats by giving the toxic honey (3).

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Our cases were inhabitants of two small towns in Kastamonu province of Turkey. We couldn't find such a big honey intoxication série of a total 66 reported in the literature so far.

The Presentation of Cases

66 cases who ate honey within the last hour and admitted to the hospital with syncope, bradycardia, hypotension and unconsciousness were taken into consideration. The patients were hospitalized and taken under close supervision by completing the essential tests such as ECG, telecardiography, routine biochemical analysis together with nomogram. The patients were followed up for 24 hours. A11 the patients were over the age of 18 and no honey intoxication case was detected in children. Mean age was 51.95Ü4.99 (18-85) Most of the patients were males (%80.3). The percentage of the females was 19.7%. The amount of honey causing intoxication was found to bel3.45±5.39g (5-30) and the mean length of time for the beginning of the intoxication signs was detected as

Table 1. The features of patients with honey intoxication and the results

Variables	Findings
Age	51.95Ü4.99 (18-85)
Sex	Male (%80.3),female (%19.7)
Amount of honey	13.45±5.39 (5-30)g
Duration of the symptom onset	1.19±0.65 hour (0.5-3)
Dizziness	% 100
Weakness	% 100
Cloudy vision	%88
Nausea	%45.4
Vomiting	°.;,31.8
Syncope	% 17.6
Salivation	%4.7
Systolic blood pressure	70.08±14.89(50-100)mmHg
Diastolic blood pressure	45.25±12.91(0-809mmHg
Pulse rate	47.96±8.48(27-66)/min
Pulse rate is less than 607mm	%87
Pulse rate is less than 50/min	%55.3
Treatment	I.V. fluid, atropin (0.5-2 mg)
Death	none

1.19±0.65 hour (0.5-3) The major complaints of the patients were admitted to the emergency room were dizziness (%100), weakness (%100), cloudy vision (%88), vomiting (%31.8) unconsciousness and syncope (% 17.6), excessive salivation (%4.7). In the physical examination, at the mean systolic blood pressure was 70.08±14.89(80-100)mmHg and diastolic blood pressure was measured 45.25±8.48 (27-46) mmhg. The pulse rate was below M) min in 87 percent of the patients and below 50 /mm in 55.3 percent of them.All findings were summarized in Table 1. The E C G rhythm was sinus in all patients and no AV block and bundle branch block was detected. Telecardiography , hemogram, scdimantation rate,and the other routine biochemical tests were found to be normal in all of the patients.All patients were treated with intravenous fluid and 0.5-2 m g atropine. The symptoms recovered completely within 24 hours and no death occured.

Discussion

The plants rich in grayonotoxin responsible for the honey intoxication are found intensively in some regions of the world. The signs of intoxication could be seen when the honey produced from the nectar of these flowers and also the leaves and the flowers of these plants (Rhododendron ponticum) were eaten (4,5). Grayonotoxin attaches the sodium channels in the cell membrane (6.7). In spite of uncertainty, it can be said that the effects of the toxin is related with this evcnt.The signs of intoxication appear usualy within 1-2 hours according to the toxin concentration.This time period varied between 0.5 and 3 hours in our patients.The quantity of the honey eaten was generally between 10 and 15 grams. When the distribution of the patients were examined according to the sex, it was observed that the percentage of the males was 4 fold higher than females.A similar percantagc was also reported in the scries of 16 cases published by Biberoğlu et al. when the the complaints and findings of the patients are evaluated it can be stated that the major findings are dizziness, weakness, hipotensión and sinusal bradycardia. The other findings can appear more scarcely. The rhythm and conduction disorders other than sinusal bradycardia such as nodal rhythm and the complete atrioventricular block have not seen contrary to the cases of Biberoğlu et al. The severity and the difference of the findings suggested that it could be related with the toxin concentration of the honey. The intoxication degree may be severe or moderate (8). But, generally all findings can be converted to normal with the correct diagnosis and the treatment within 24 hours. The treatment can be done with IV fluid together with 0.5-2 mg atropine. Fortunately, no death occured in our cases.

The interesting point of this series is the appearance of a big number of honey intoxication cases m a short period of time in two small towns such as Abana and İnebolu in Kastamonu province of Turkey. It was not reported such a big number of cases at this intensity in the literature .İn spite of the fact that the most of the patients reported from Turkey was from the region of the eastern Black Sea, It was understood that the honey intoxication cases are be also seen in the region of the central Black Sea intensively.

In conclusion, honey intoxication can be definitely thought in the people who admitted the hospital with hipotensión and bradycardia and live in Black Sea region and ate honey produced in these regions. Since, clinical picture recovered completely in the cases of honey intoxication with the correct diagnosis and the treatment.

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