Case Report

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A Case of Acute Psychosis Following Energy Drink Consumption

Enerji İçeceği Tüketimi Sonrası Gelişen Bir Akut Psikoz Olgusu

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ABSTRACT

Interest in energy drinks is increasing every day. Energy drink consumption is increasing proportionally. Users often utilize these drinks in order to enjoy, have fun and to increase performance and attention. However, consumption of the energy drinks sometimes may also cause adverse physical and psychological consequences. Unwanted physical results are in the more foreground, noticeable and visible but the data about psychological problems caused by energy drinks is accumulated over the years in the literature. In this case report, we describe the case of a young man with no psychiatric history who was hospitalized for psychotic symptoms following excessive consumption of energy drinks. *(Archives of Neuropsychiatry 2014; 51: 79-81)*

Key words: Energy drink, psychosis, caffeine, taurine

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ÖZET

Enerji içeceklerine ilgi her geçen gün artmaktadır. Enerji içeceği tüketimi de doğru orantılı olarak artmaktadır. Kullanıcılar çoğunlukla keyif almak, performans ve dikkati artırmak amacıyla kullanmakta. Ancak zaman zaman istenmeyen bedensel ve ruhsal sonuçlara da yol açabilmektedir. İstenmeyen bedensel sonuçlar daha ön planda ve görünür olmakla birlikte literatürde enerji içeceklerinin yol açtığı ruhsal sorunlar ile ilgili veriler yıllar içinde birikmektedir. Bu olgu sunumunda daha önceden psikiyatrik hastalık öyküsü bulunmayan, yoğun enerji içeceği tüketimi sonrası psikotik semptomlar gelişen genç bir olguyu anlattık. *(Archives of Neuropsychiatry 2014; 51: 79-81)*

Anahtar kelimeler: Enerji içeceği, psikoz, kafein, taurin

Çıkar Çatışması: Yazarlar bu makale ile ilgili olarak herhangi bir çıkar çatışması bildirmemişlerdir.

Introduction

Energy drinks were used in Asia and Europe in 1960s for the first time and gained popularity in 1980s primarily in Europe and afterwards in North America (1). Consumption of energy drinks is increasing each year worldwive. Companies market energy drinks by stating that they increase physical and emotional endurance and concentration (2). Although the main active ingredient in energy drinks is caffeine, they also contain taurine, inositol, riboflavin, prydoxin, nicotinamide, other vitamin Bs and other herbal derivatives (3). Energy drinks show their stimulating effects by increasing attention and performance (4). Taurine in the content is an amino acid which has a neuroprotective role in muscle contraction and brain. Taurine in energy drinks provides increase in physical stregth and concentration in combination with caffeine (5,6). However, the acute and long-term effects of excessive and chronic consumption of the substances contained in energy drinks alone and in combination with caffeine are not known clearly (1). In the literature, there are cases of mood disorder and psychosis caused by caffeine and energy drinks (4,7,8). In our article, we described a case of acute psychosis which occured following intensive consumption of energy drink containing caffeine and amino acid.

Case

E.D. was a 21-year-old male university student who was studying tourism and hotel management. The patient who had no psychiatric complaint before presented to our outpatient clinic with complaints of depression, introversion and crying. He started apprenticeship training in a hotel which was compulsory for his educaiton about two months ago. It was learned that he regularly consumed one or two energy drinks daily to be more energic during his training, sometimes drank energy drink in combination with a small amount of vodka, complaints of forgetfullness, introversion, depression and crying occured about one month after he started training and did not consume alcohol or energy drink before. He called his father 10 days after

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his compaints started and tald him to take him away because he did not feel well. His father who last saw his son before he went for training noticed that he was confused, depressed, sad, sleepless and tired when he met his son after the 1,5-month period. When talking with himself, loughing and agressive behavior were noted approximately one week later, the patient was brought to our outpatient clinic and hospitalized for follow-up and treatment.

He had no history of medical or psychitaric disease or smoking, alcohol consumption or psychoactive substance abuse. He had no familial history of psychiatric disease.

On the initial psychiatric examination, his consciousness was open, his cooperation was limited and he was indifferent and careless against verbal stimuli. Orientation could not be evaluated because of limitation in cooperation. He had blunted affect. His self-care, sleep, nutrition, cooperation with the physician and impulse control were decreased. He was answering questions with single words with a faint voice. His answers were perseverative as "I don't know, I have forgotten". His psychomotor activities were decreased, but he had disorganized movements now and then. His associations were slowed down and did not reach an objective. His near memory was disrupted and far memory was normal. His attention was reduced. He had dissimulative approach for his delusions and hallucinations. It was found that he had auditory and visual halluciantions and grandious, persecution and mystic delusions during observations in the ward.

His systemic and neurological examination was found to be normal. No pathology was found in the biochemical, hemogram and thyroid function tests. No pathology was found on EEG, cranial CT and cranial MRI performed to exclude organic etiology.

Clinical course

On the first day of hospitalization, the total PANNS score was found to be 115. Treatment was initiated with olanzapine at a dose of 10 mg/day and the dose was gradually increased to 30 mg/day. After the dose was increased, his appetite and sleep improved on the second day, but his disorganized behavior, excitation, persecution, mystic and grandious delusions continued. As his treatment continued, his cooperation gradually increased and blunted affect and disorganized behaviors gradually decreased. However, the dose of olanzapine was decreased and amisulprid was added to treatment at a dose of 800 mg/day, because his psychotic symptoms did not improve sufficiently (PANNS=81) on 26th day of hospitalization. On the 31st day of hospitalization, his grandious and mystic delusions continued, but he cooperated well and stated that he consumed 60-70 energy drinks in a period of one month during his training. It was found that the energy drink he consumed contained 150 mg caffeine, 800 mg taurine, 100 mg inositol and 20 mg glucanolacton. Since his delusions and hallucinations continued, though partially, his treatment was adjusted to include 1200 mg/day amisulpride, 10 mg/day olanzapine and 2 mg/day biperiden. On the 42nd day of hospitalization, delusions and hallucinations disappeared completely, sleep and appetite improved (PANNS=32) and he was discharged with a diagnosis of "psychotic disorder related with consumption of energy drink" and the same treatment. On regular outpatient follow-up visits after discharge, no delusion or hallucination was found and his functionality was evaluated to be at a good level. His treatment was tapered gradually and he was continuing to use amisulprid at a dose of 400 mg/day.

Discussion

Energy drinks mainly contain caffeine and accompanying taurine, inositol, riboflavin, prydoxin, nicotinamide, other vitamin Bs and various herbal derivatives (3). Currently, there are many energy drink brands with a caffeine content ranging from 50 mg to 505 mg (1). Consumption of energy drinks has been mostly associated with caffeine intoxication which is manifested by nervousness, anxiety, agitation, sweating, gastrointestinal disturbance and tachycardia (4). However, some publications have associated psychiatric symptoms which develop after consumption of energy drinks with the amino acids contained including taurine, inositol etc. (9,10). In the literature, there are cases which have been reported to have developed following consumption of energy drinks. Sharma reported a case of acute mania with no history of psychiatric disease which developed after intensive consumption of energy drink and was treated with olanzapine (10 mg/day) similar to our case (4). Our patient benefited from amisulprid treatment. Chelben et al. reported that three patients (one with personality disorder, one with bipolar disorder and one with schizophrenia) were hospitalized with psychomotor agitation, hypervigilance, verbal and physical agression, impulsive behavior symptoms following consumption of energy drink containing amino acids and treated (7). Although our patient mostly drank energy drink alone, he stated that he consumed energy drink in combination with a small amount of vodka on some days. In the literature, it has been pointed out that consumption of energy drinks with alcohol is increasing rapidly (11). In one study, it was shown that consumption of energy drinks containing caffeine in combination with vodka decreased perception of motor coordination when compared with consumption of vodka alone (12). When energy drinks are consumend with alcohol, users do not feel the symptoms of alcohol intoxication and this leads to increase in the amount of alcohol consumed (13).

In conclusion, the frequency of such cases may increase with the increase in consumption of energy drinks in the community. Our case was thought to be worth presenting, because consumption of energy drinks has also increased in our country and an amisulpride-responsive psychotic picture was found in our patient following intensive consumption of energy drink, though he had no history of any psychiatric complaint and we wished to draw attention to the risks of energy drinks

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