New challenges of the pediatric emergency department: synthetic cannabinoids

To the Editor,

In recent years, the frequency of use of synthetic cannabinoid (SC) has increased in the adolescent age group (1). While it is known as "K2", "Spice", "Aroma","Mr.Smiley", "Zohai", "Eclipse", "Black Mamba", "Red X Dawn", "Blaze", the name "Bonzai" has come to the forefront in our country (2). Synthetic cannabinoids are sprayed on plants, are sold in packages with warnings including "natural plant mixture", "incense", ''not for human use" and is consumed like cigarette (3). It is important to recognize poisonings due to this kind of substances the content and dosage of which are unclear and to perform appropriate interventions. In this article, it was aimed to present a 17-year old male patient who presented to the pediatric emergency department after usage of SC after obtaining verbal consent and to draw attention of physicians working in pediatric emergency departments to this issue.

A 17-year old male patient was brought to the pediatric emergency department by 112 ambulence because of headache, muscle aches, nervousness, restlessness and drowsiness following use of SC. The Glascow coma scale was found to be 15 and systemic examination and vital findings were found to be normal. It was learned that he was using depakin because of epilepsy and had no additional illness. In his history, it was learned that he started to use SC approximately 6 months ago, obtained the substance from street vendors and used SC like cigarette. He was not using any other illegal substance or alcohol. He did not attend the school and was working as an errand-boy in industry. Complete blood count, blood biochemistry and electrocardiography were found to be normal. It was thought that his complaints arised from SC. Nervousness and restlessness improved after 5 mg oral diazepam. No additional problem developed during the 6-hour follow-up period. He was discharged to be referred to the Alcohol and Substance Addicts Research and Treatment Center.

A significant increase has occured in substance abuse and related mortality in recent years. In our country, 12 deaths related with substance abuse were reported in 2000, whereas this figure reached 147 in 2007 (4). The frequency is increasing in the adolescence because of low price and easy accessibility. The issue is in the news in visual and printed media almost everyday and a growing number of cases present to emergency departments.

Adolescents may abuse substance because of many different reasons. Individual risk factors include antisocial

Table 1. Signs and symptoms reported after use of synthetic cannabinoid (1)

Cognitive changes
Confusion, sedation, somnolance, disorganization, inability to talk, mental problems, increase in focusing, restlessness
Behavioral changes
Agitation, agression, sleep disorders and nightmares
Mood disorders
Euphoria, dysphoria, anxiety, unstoppable laughing attacks, nervousness, sadness
Psychosis, perception
Other
Tachycardia, hypertension, conjunctival hyperemia, nausea, vomiting, tremor, seizure, erytema in the skin, sweating, tinnitus

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personality, agressiveness, hyperacitivity and chronic diseases. Environmental risk factors include intra-familial violence, parents who abuse illegal substances, weak family bonds and exposure to abuse. Social risk factors include easy accessibility of illegal subtances, poverty, unemployment and a high rate of crime in the area of residence (5). In our case, presence of underlying epilepsy and working as an employee in industry instead of attending the school were thought to be risk factors.

In the diagnosis, the most important clue is a history of usage of SC. In patients with cognitive, behavioral and mood disorders, usage of SC should be suspected, if sympatomimetic findings are present additionally. The signs and symptoms reported after use of synthetic cannaboid are shown in Table 1. The laboratory tests are generally within the normal limits, but they should be performed to find additional pathologies. SC can not be determined with standard toxicological screening tests.

The mainstay of treatment consists of supportive therapy. Patients should be monitored in a quiet and calm room at an appropriate temperature and treatment should be planned according to the clinical findings. It has been shown that agitation improves with long-acting benzodiazepines and dystonia improves with diphenhydramine (1). It is important to interrogate patients in terms of abuse of additional substances other than SC and to perform additional therapeutical interventions if necessary. Following urgent treatment and follow-up patients should be referred to appropriate psychiatry and substance addiction treatment centers.

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References

1. Castellanos D, Thornton G. Synthetic cannabinoid use: recognition and management. J Psychiatr Pract 2012; 18: 86-93. [CrossRef]
2. Gurdal F, Asirdizer M, Aker RG, et al. Review of detection frequency and type of synthetic cannabinoids in herbal compounds analyzed by Istanbul Narcotic Department of the Council of Forensic Medicine, Turkey. J Forensic Leg Med 2013; 20: 667-72. [CrossRef]
3. Evren C, Bozkurt M. Sentetik kannabinoidler: Son yılların krizi. Düşünen Adam: Psikiyatri ve Nörolojik Bilimler Dergisi 2013; 26: 1-11.
4. Türkiye Büyük Millet Meclisi. Madde kullanımı ve bağımlılığı ile kaçakçılığının önlenmesi alanlarında tespit edilen sorunlar ve çözüm önerileri. Meclis Araştırma Komisyonu Rapor Özeti 2009;http://www.tbmm.gov.tr/docs/madde_kullanimi_ve_bagimliligi.pdf (erişim tarihi: 22.08.2014).
5. Alikaşifoğlu M, Ercan O. Ergenlerde riskli davranışlar. Türk Ped Arş 2009; 44: 1-6.