Capgras Syndrome After Use of Synthetic Cannabinoids: an Adolescent Case

ABSTRACT
Capgras syndrome after use of synthetic cannabinoids: an adolescent case
Anxiety, agitation, irritability, confusion, hallucinations and delusions are among common psychoactive effects of synthetic cannabinoids, which are referred as “bonsai” and “jamaica” in Turkey. Cases of psychotic disorder induced by synthetic cannabinoid use are becoming increasingly more reported. Capgras syndrome is a psychotic disorder characterized by a delusion that a specific person or object has been replaced by an identical one. It has been reported to occur rarely in pure form, but generally accompanying schizophrenia or organic psychosis. Herein we aim to report an adolescent case presenting with Capgras syndrome developed after use of synthetic cannabinoids and to draw attention to psychotic symptoms and to this uncommon psychotic syndrome which may occur after synthetic cannabinoid use. Seventeen years old male, who reported using “bonsai” for about 10 days, was brought to the emergency room by his family. Capgras syndrome, defined with delusion that his mother and father have been changed and replaced by others, has been detected. In adolescents who admit with psychotic symptoms, synthetic cannabinoid use should be considered and detailed history should be taken, even laboratory tests were negative. Adolescents, as a vulnerable population, should be informed about negative effects of synthetic cannabinoids which are easily accessible and distributed as “herbal”, “natural” and “legal”, as well as their parents and institutions such as schools which may guide them. Thus, it might be possible to prevent psychotic disorders which will be induced by this substances.

Keywords: Adolescent, Capgras syndrome, cannabinoid, psychotic disorder

Sentetik kannabinoid kullanımı sonrası gelişen capgras sendromu: Bir ergen olgu

Anahtar kelimeler: Ergen, Capgras sendromu, kannabinoid, psikotik bozuluk
INTRODUCTION

Synthetic cannabinoids (SCs), which have been easily supplied in the markets since 2000s, and become more popular currently, are psychoactive substances with similar effects to Δ9-Tetrahydrokannabinol (Δ9-THC) (1-3). These substances which are named differently as “spice”, “K2”, “aroma”, “dream”, “Mr. Smiley”, and “blaze” in foreign countries, are generally named as “bonsai” and “jamaica” in Turkey (4-6). It was also reported that these substances, which are generally prepared in laboratories by spraying chemical liquids on herbal mixtures, and drying, could contain other substances which might cause accompanying psychoactive effects (1,5,7).

Although it is known that SCs are stronger than natural cannabinoids, there are very limited data about effects of these substances because of their dynamic and unpredictable structures, and difficulties in detection by laboratory tests (8). Currently, number of studies investigating the effects of these substances on the body and also their psychoactive effects are increasing in number both in the world and in our country (2,5,9-11). The commonly observed psychoactive effects are anxiety, agitation, irritability, confusion, hallucinations, and delusions (2,10,11).

Cannabis use has been related to psychosis for many years. Various psychotic symptoms such as hallucinations, and paranoid delusions have been reported after cannabis use (12). It was reported in many studies that there was a correlation between cannabis use and both acute and chronic psychotic pictures (13,14). Similarly, number of case reports are increasing about psychotic pictures triggered by SC use (15-18).

Capgras syndrome is defined among delusional misidentification syndromes, and a rarely encountered psychotic picture, and it is characterized that patients believed that close and special individuals or subjects are replaced by identical individuals. It was also reported that Capgras syndrome was rarely encountered as a pure clinical picture, and generally accompanied by schizophrenia or organic psychosis (19,20).

We aimed to draw attention to psychotic symptoms which might be observed after SC use, and the psychotic picture by presenting an adolescent who developed Capgras syndrome after synthetic cannabinoid use.

CASE

The patient was a 17 years old male patient, who was living with his parents. His father was working as a mechanic at the auto-industry, and his mother was a housewife. The patient was working with his father, and he had an older sister who was 26 years old and university student.

He was brought to our emergency unit by his parents, because he was nervous, performed a hostile behavior as cutting his wrist superficially, and tried to jump out of the window. His parents told that he was changed a lot within the last 2 days, even his eyes looked differently, and told them “You are not my mother and father”, and he tried to escape from home. He stayed too long in the bathroom in the morning, and did not respond, so they forced the door and they saw him that he had cut his left wrist. He could not sleep properly in the last 3 days, and ate nearly nothing.

During the first psychiatric interview, he was crying while telling his life that his father and mother were replaced by other individuals whose faces were identical, but hands were different, and he could understand this from their movements, and his mind was always occupied with his parents, because those individuals might harm or even kill them. He told that he realized this condition 4 days ago, and also mentioned that there were sounds recently like chopping wood, and screams to frighten him.

In his mental examination, he was conscious, cooperative, and oriented, his spontaneous speech was decreased, but he responded the questions. His associations were generally regular, and pointed to the target, his mood was irritable, and his affect was normal. He had persecutory delusions and auditory hallucinations. His thought content was intensely preoccupied with the condition of his mother and...
father. His cognitive functions were adequate, but he did not have insight.

The patient had no history of alcohol abuse, but tried volatile substances a couple of times previously, and he started to take “bonsai” nearly every day via inhalation within the last 10 days, although he did not use it previously. His complaints were present for 4 days, and he did not apply to a psychiatrist previously. No medical history or familial psychiatric history was described. Normal findings were reported in routine laboratory and imaging examinations. Metabolites of substances which could not be diagnosed in the urine other than SC were negative.

Olanzapine 10mg/day treatment was started, and partial recovery was achieved in 10 days in psychotic symptoms, whereas complete recovery was achieved 2 weeks later. The patient was followed up by regular monthly visits, and at the end of 3-month follow up, it was observed that the patient did not use “bonsai” and there were no recurrence of psychotic symptoms.

**DISCUSSION**

In the literature, adolescent cases who applied to hospitals for SC use have been increasingly reported (6,17,21). Although it was known that SCs had stronger effects when compared with cannabis, there was no adequate information about pharmacokinetics, and pharmacodynamics of many of the SCs in humans (1,8). It was also believed that evolving symptoms were affected by factors such as duration of use and personal tendency in addition to substance content (22). Differently from Δ9-THC metabolites, it was reported that SCs might show agonistic, antagonistic or neutral agonistic effects with CB1 receptors. Therefore, use of SCs might cause marked changes in emotional and cognitive functions, and they might trigger psychotic symptoms in individuals who especially had a tendency (1,8). Psychotic pictures which were related to SCs were frequently reported in the studies (15-18). Although it was determined that psychotic symptoms might be triggered in individuals with previous psychotic disorder history while taking SCs (4,23), new onset psychotic symptoms were reported in individuals who had no previous psychotic disorder history (15-18). In the literature, a few adolescent cases who developed psychotic symptoms after SC use were reported (17,21).

Visual and auditory hallucinations, paranoid and grandiose delusions, disorganized and bizarre behaviors were commonly reported symptoms in psychotic pictures which were related to SC use (15-17). Hurst et al. (15) reported in their case serial of 10 patients that the most common signs were auditory and visual hallucinations, paranoid hallucinations, inappropriate or flat affect, alogia, thought block, disorganized speech and behavior, psychomotor agitation and retardation and suicidal thoughts. Van der Veer (24) reported an adult case who developed Capgras delusion related to SC use. He reported that psychotic symptoms triggered by SC use in individuals who did not have previous psychotic disorder were generally short term, and self-limited (12,15,17). It was reported that severe and persistent psychotic symptoms might be developed after SC use in some cases (24). Therefore, sometimes it may be very difficult to differentiate psychiatric pictures evolved after SC use from primary psychiatric diseases (25).

The case we presented here was an adolescent who developed psychotic signs after SC use, and similar to some cases in the literature (15-18) he did not have any previous psychiatric disease history or application to psychiatry clinic. In the literature, longer durations of SC use as weeks or years were reported in cases who developed SC related psychotic disorder (15,21). In our case, psychotic symptoms were developed after a short duration of SC use (10 days). It was reported that symptoms related to SC use in adolescent cases were similar to the ones in adults (21). Consistently with the literature, auditory hallucinations and persecution delusions were marked psychotic symptoms in our case, and also Capgras syndrome which was outlined with delusions that his mother and father were replaced by other individuals, was observed. According to our knowledge, development of psychotic picture after SC use was reported in one adult case previously. In the literature, presence of
familial psychotic disorder history was noted in some cases (15,17,23), but there was no previous psychiatric disease in the family history in our case. Castellanos et al. (21) reported previous cannabis and alcohol use in 10 out of 11 (91%) of adolescent cases who used SC. In our case, although there was no alcohol abuse history, previous volatile substance use was described. Again consistently with the literature, (12,15,17), psychotic symptoms triggered by SC use were recovered in a short-term with the treatment, and no SC use in the follow up, and no recurrence of psychotic symptoms were noteworthy in our case.

Our case is important, because Capgras syndrome which is presented by psychotic symptoms such as SC induced hallucinations, and delusions, and a rare psychotic picture, is diagnosed. It is crucial to consider the possibility of SC use and to obtain a detailed psychoactive substance use history in adolescent patients who apply for psychotic symptoms despite negative laboratory results. Adolescents, who constitute a vulnerable population, should be informed about negative effects of SCs which are easily accessible and distributed as “herbal”, “natural” and “legal”, as well as their parents and institutions, such as schools which may guide them. Thus, it might be possible to prevent psychotic disorders which will be induced by these substances.

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