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Oxybutynin Abuse in An Adolescent: A Case Report

Ergen Bir Olguda Oksibutinin Kötüye Kullanımı: Bir Olgu Sunumu

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Öz

Oksibutinin klorür, çocuklarda aşırı aktif mesane tedavisinde kullanılabilen Amerikan Gıda ve İlaç Dairesi tarafından onaylanmış tek antikolinerjik ilaç olup nörojenik mesane ve enürezis durumlarında kullanılabilmektedir. Yapılan araştırmalarda antikolinerjik ilaçların sıklıkla kötüye kullanılabileceği bildirilmekte olup oksibutininin öforizan ve halüsinojenik etkilerinden dolayı bağımlılık potansiyeli olduğu düşünülmektedir. Ergenlik madde kullanım bozukluğu açısından riskli bir dönem olup son yıllarda oksibutinin kötüye kullanımı ile ilgili olgu sunumları bildirilmektedir. Bu olgu sunumunda pediatrik popülasyonda oksibutinin sık kullanımı göz önünde bulundurulduğunda klinisyenlerin oksibutinin kötüye kullanımı açısından dikkat etmelerinin önemi vurgulanmak istenmiştir.

Anahtar Kelimeler: Adolesan, Antikolinerjik, Oksibutinin, Reçeteli İlaçların Kötüye Kullanımı

Abstract

Oxybutynin chloride is the only anticholinergic drug approved by the U.S. Food and Drug Administration for the treatment of over active bladder in children and can be used in neurogenic bladder and enuresis. Studies have reported that anticholinergic drugs can be frequently abused and oxybutynin is thought to have a potential for addiction due to its euphoric and hallucinogenic effects. Adolescence is risky in terms of substance use disorder and case reports on oxybutynin abuse have been reported in recent years. In this case report, considering the frequent use of oxybutynin in the pediatric population, the importance of clinicians being careful about oxybutynin abuse was emphasized.

Keywords: Adolescent, Anticholinergic, Oxybutynin, Prescription Drug Abuse

Introduction

Oxybutynin chloride is the only anticholinergic drug approved by the FDA (U.S. Food and Drug Administration) for the treatment of overactive bladder in children and can be used for neurogenic bladder and enuresis (1). Apart from the neurological pathways related to addiction, the cholinergic system is also thought to play a role in addiction (2). Studies have reported that anticholinergic drugs are also commonly abused, and oxybutynin is thought to have addictive potential due to its euphoric and hallucinogenic effects (3). In addition to anticholinergic drugs, abuse of some other prescription drugs used in medical illnesses and psychiatric disorders has also been reported. Frequently abused drugs are modafinil, venlafaxine, quetiapine, tianeptine, gabapentin and pregabalin (4). In a study conducted in our country in which drugs abused in prisons were investigated, pregabalin and gabapentin were reported to be in the first place and two case reports related with the abuse of oxybutynin were reported (5).

Adolescence is a vulnerable period for substance use disorders, and case reports of oxybutynin abuse have been reported in recent years (6,7). Overactive bladder in children and adolescents is a condition that, although not as common as in adults, is seen in paediatric practice, particularly in the form of urinary incontinence, and can have a negative psychosocial impact on children and their families (8). It is known that oxybutynin is the most commonly prescribed drug for its treatment (9). Given the frequency and ease with which it can be prescribed in the pediatric age group and the ease of access to the drug, it is important to be vigilant for abuse in vulnerable groups. In this case report, a case with a long history of depressive symptoms and no regular psychiatric follow-up found that oxybutynin, which had been started for overactive bladder, was good for her depressive symptoms and abused the drug. The aims of the study include; physicians should be careful when starting this drug, the risk of addiction should be considered and evaluated in patient interviews, and it can be emphasized that patients with depressive symptoms should be more careful.

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Case

A 16-year-old female patient was brought to the emergency department with multiple transverse incisions on the left forearm and was consulted. In the interview with the case, she stated that she had been self-harming for the last three years, that it started six months after her parents' divorce, that it helped her to relax, that it calmed her down when she felt bad or angry. She stated that she felt sad and tired in general for the last three years, constantly needed sleep, spent most of her time in her room and her academic success decreased. In the interview with the father, it was noted that she had been withdrawn for three years, did not want to leave her room, had

disrupted her self-care, had limited communication at home and had started smoking for one year.

When the case history was evaluated, it was stated that the neuromotor developmental stages were normal, there were no academic difficulties, there were no learning and attention problems, and there were no complaints from the school. It was stated that she had applied to our polyclinic twice before, that she had not applied to any psychiatric clinic for the last three years, and that the patient wanted to continue the interviews in her previous applications, but her father did not want her to. It was previously stated that her first presentation to us was six years ago with complaints of forgetfulness, curiosity and lying, no psychiatric disorder was considered at that time, and recommendations were given. It was learned that her second admission was three years ago with complaints of feeling sad, lack of social environment and friends, constant desire to sleep, fatigue, aripiprazole was started and gradually increased to a dose of 2.5 mg/day due to a family history of bipolar for the diagnosis of depression, and she did not come to the control interview.

When the family history of the patient was evaluated, it was learned that the parents divorced four years ago due to violence, the custody of the children was given to the father, and the mother continued to see the children face to face once a month. When the family history of our patient was examined, it was learned that she had two brothers, aged 27 and 26, the middle brother was diagnosed with bipolar disorder when he was in the 9th grade, he received lithium treatment for a period of time. It was also learned that the mother had consulted a psychiatrist after the divorce, had been treated with sertraline 150 mg/day for three years with a diagnosis of anxiety disorder, and was currently not taking any medication.

Mental status examination revealed that speech rhythm was low and she did not initiate communication. Her affect and mood were depressive. It was noteworthy that there were many old and new transverse cuts on the left forearm. Intelligence level was clinically normal.

As a result of the evaluation, the patient was diagnosed with dysthymic disorder according to the diagnostic criteria of the Diagnostic and Statistical Manual of the American Psychiatric Association, 5th edition (10) In the psychometric evaluations, the Beck Depression Scale (11) was found to be 20 and the Anxiety Rating Scale for Children (12) was found to be 52. As there was a family history of bipolar disorder, treatment with aripiprazole 2.5 mg/day was started gradually. When questioned about comorbidity and drug use, it was learned that the patient had presented to the urology department about one year ago with complaints of urinary frequency and urinary incontinence, enuresis was diagnosed as a result of tests and imaging, and treatment with oxybutynin 5 mg/day was started. It was learned that she took two tablets by mistake, felt better that day and increased her dose because she realised that she felt better afterwards. It was stated that the patient had been taking an average of 5-6 tablets (30 mg/day) every day for the last one month and had tried up to a maximum of 7 tablets (35 mg/day). It was stated that she had been taking oxybutynin treatment for one year, but she continued to use it for relaxation for the last month, took 4-5 pieces every day in the same amounts and could relax. It was stated that she continued to take it for the relaxation and happiness she felt when she took it, and that she did not know what happened when she did not take the medicine because she took it regularly every day for the last one month. No side effects were described on the days she took the drug. It was learned that she had no alcohol and substance use except smoking.

The patient was followed up with weekly follow-up interviews. Psychoeducation about drug abuse, stress management was practised, and day structuring planning was made in the meetings. Aripiprazole treatment was started again upon the recognition of benefit from previous aripiprazole treatment. In the first control interview, she stated that she had not received oxybutynin treatment for a week, that she used aripiprazole treatment regularly, that she benefited from it, that she did not experience withdrawal after stopping oxybutynin use and that she did not have any withdrawal symptoms. The importance of regular follow-up was emphasised because the family had not been able to provide regular psychiatric follow-up of the adolescent before, and the family's participation in the treatment was ensured. The patient was followed up regularly in our outpatient clinic for three months. It was informed that the treatment was continued in an outpatient centre since they moved out of the city. Informed consent was obtained from the family and the patient for the publication of this report.

Discussion

Oxybutynin chloride has direct anesthetic and smooth muscle relaxant effects as well as anticholinergic effects (3). It is also used in patients with neurogenic bladder and enuresis, and the dose range is 5-20 mg/day. Overdosage of the drug has been reported to cause anorexia, insomnia, agitation, irritability, delusions, hallucinations, confusion and delirium (13).

The mesolimbic dopaminergic system, ventral tegmental area, nucleus accumbens and prefrontal cortex are thought to be the major neurological pathways involved in addiction, and the cholinergic system has also been reported to play a role in addiction (2). Activation of muscarinic receptors facilitates dopamine release and transmission to the nucleus accumbens. Blockade of muscarinic receptors may also block the reuptake and storage of

dopamine, leading to euphoria and deliriogenic-hallucinogenic effects with addictive potential (14).

Adolescents are one of the most vulnerable groups in terms of substance abuse. In addition to substances known to be addictive, drugs with sedative, anticholinergic-antimuscarinic and stimulant properties, prescribed for all types of treatment, may be abused by adolescents (15). In a review of the literature, three cases of abuse of oxybutynin in adolescents have been reported in our country, and in two cases a history of substance abuse was defined before the abuse of oxybutynin (6,7). When the common characteristics of the cases are evaluated, it is noteworthy that they were in late adolescence in terms of age, had depressive symptoms, started with the suggestion of friends, and continued because they felt good.

During adolescence there are many psychological as well as physical changes. Gaining an identity is one of the most important achievements of this period and this situation can lead to identity confusion in some individuals. Adolescents in the process of identity formation are at high risk of substance abuse. Negative early life events and chaotic family relationships can lead to increased confusion and inappropriate coping during adolescence (16). Given the fragmented family structure, chaotic domestic relationships, current adolescence and depressive complaints of our case, it can be considered risky in terms of substance use. Many studies have shown that the prevalence of smoking, alcohol and drug abuse is higher in adolescents with inadequate family functioning and a problematic family structure (17). The fact that our patient did not have a regular psychiatric referral, her current mental health difficulties and her realisation that she was being relieved by oxybutynin may have led to an increase in substance abuse. Early recognition of oxybutynin abuse during the patient's outpatient follow-up prevented the risk of potential addiction.

Overactive bladder is a condition seen in paediatric practice in children and adolescents, although not as frequently as in adults, especially when associated with urinary incontinence, which can have a negative psychosocial impact on children and their families, and it is known that the most commonly prescribed agent for its treatment is oxybutynin (8). It has been available on prescription in Turkey since March 2017 and can be easy to prescribe. Considering all these, other medications used for organic diseases and their usage patterns should be questioned in groups at risk of substance abuse and in adolescents, attention should be paid to the use of anticholinergic drugs and they should be prescribed with caution. Considering the euphorising effect of low dose oxybutynin in our case, it is important to be careful in clinical applications.

Conclusions

With this case report, it was aimed to raise awareness of physicians working in branches where oxybutynin treatment is used, to question the dose used, and to consider the evaluation of abuse in case the drugs run out earlier than they should.

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Conflict of interest statement

There is no conflict of interest

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