

## COMORBIDITY OF CYCLOPENTOLATE ABUSE AND BEHCET'S DISEASE: A CASE REPORT

Ayşegül Şahin Ekici, Emine Nur Sargın, Şengül Şahin, Bahadır Demir,  
Gülçin Elboğa & Abdurrahman Altındağ

Gaziantep Üniversitesi Şahinbey Uygulama Ve Araştırma Hastanesi Psikiyatri Anabilim Dalı- Şehitkamil,  
Gaziantep, Turkey

received: 13.1.2021;

revised: 27.2.2021;

accepted: 6.3.2021

\* \* \* \* \*

### INTRODUCTION

Cyclopentolate is a synthetic anticholinergic agent that has been used for mydriasis and cycloplegia as an eye drop in ophthalmologic diseases. It is known that there is abuse of anticholinergic drugs for their euphoric and hallucinogenic properties, but abuse involving cyclopentolates has attracted attention in only a few case reports in the literature. Here, we report a case in which a patient with cyclopentolate addiction used the drug to self-medicate for his depressive symptoms and for anger management.

### CASE PRESENTATION

A 50-year-old male patient was admitted to the Alcohol and Drug Addiction Outpatient Clinic Of Gaziantep University Sahinbey Research and Practice Hospital with complaints of impulsive behavior, hostility, and having misused cyclopentolate hydrochloride eye drops for 15 years. He had been diagnosed with Behcet's Disease (BD) 24 years earlier. The patient reported that he had oral and genital ulcers due to BD, and he also had kidney stones, so he was experiencing severe renal colic pain. He had been examined by an ophthalmologist for complaints of blurred and impaired vision and diagnosed with uveitis due to BD. Seven years after he was diagnosed with uveitis, he had been diagnosed with retinitis pigmentosa in his ophthalmological examination, and he had scars and atrophy in his macular and peripheral retinal tissue. Following the examination, the ophthalmologist had prescribed cyclopentolate eye drops for therapeutic purposes. Initially, the patient used the drops to relieve his blurred vision, but he realized that he felt relief from anxiety and also happier and could easily control his anger while using these drops. He continued to use the drops in increasing doses for the next 15 years to achieve these effects. The patient had been using 70-80 drops per day during the final few months before coming to the clinic. He had become unable to tolerate using the drops less frequently than 5-6 times a day. He had also realized that the cessation of the drops made him sad and anxious and caused him to be unable to control his anger. When using the cyclo-

pentolate eye drops, he had also been having visual hallucinations, such as seeing lightning, and auditory hallucinations, believing that somebody behind him was saying his name. He reported that ceasing to use the drops had stopped his hallucinations.

The patient had no previous history of drug abuse but had been diagnosed with major depressive disorder 10 years earlier and treated at an inpatient clinic. Based on the criteria of the Diagnostic and Statistical Manual of Mental Disorders, 5<sup>th</sup> Edition, (DSM-5), he was diagnosed with anticholinergic addiction (including a physiological dependence on cyclopentolate hydrochloride) due to tolerance, characteristic withdrawal symptoms, a substance being taken in larger amounts and for a longer period than intended, cravings and repeated unsuccessful attempts to give it up, and devoting a lot of time to using it. He was also diagnosed with major depressive disorder due to irritable mood, anhedonia, concentration problems, and sleep disturbances. The patient had antisocial personality disorder traits as well. Although he was offered to drug detoxification treatment in our inpatient clinic, he did not accept the offer. He was given Fluoxetine 20 mg per day and olanzapine 5 mg per day for major depression and other problems with anger control in relation to his antisocial personality disorder. The patient did not come back to follow-up and could not be reached when he was called.

### DISCUSSION

Misuse of anticholinergic drugs was first described in case reports in the 1970s (Macvicar 1977). Patients abuse these types of drugs mainly to get high, to increase pleasure, to decrease depression, to increase energy, to relax, and to decrease the side effects of neuroleptic medication (Buhrich et al. 2000). Abuse of cyclopentolate eye drops has been reported in the literature only a few times; the first case of cyclopentolate abuse was reported in 1975 by Ostler et al. (Ostler 1975), who reported misuse of combinations of cyclopentolate hydrochloride and tropicamide. In 2011, Darcin et al. reported similar misuse of combinations of cyclopentolate hydrochloride (300-400 drops per day) and tropicamide in 2011 (Enez Darcin et al. 2011).

Personality problems and substance misuse are often comorbidities; in the case of our patient, it was found that he had been using cyclopentolate to self-medicate because of his anger problems, to treat his anhedonia, and to relieve his anxiety related to renal colic pains. Anxiety is more common in clinically active patients with BD than in healthy control subjects and patients with inactive BD (Can Sandikci et al. 2019). It has been showed that scores for depressive symptom are also higher in patients with BD than among healthy control subjects (Erberk-Ozen et al. 2006). There is another case report in the literature in addition our case, and this report presents cyclopentolate misuse that was comorbid with BD (Akkaya et al. 2008). Our patient continued to use cyclopentolate hydrochloride eye drops for addiction, but also used it to self-medicate for his depressive symptoms and for anger control.

Although the patient had reported that ceasing to use the drops had stopped his hallucinations, he did not accept that hallucinations are outcomes of using cyclopentolate and he did not have adequate insight. Among patients who have been diagnosed with chronic, rheumatologic, and vasculitic diseases such as BD, which is consistently associated with depression, there is an incidence of depression in 86% of cases following the first appearance of the symptoms and disorders of the disease (de Oliveira Ribeiro et al. 2014). Therefore, patients should be encouraged to consult psychiatrists and treated for psychological complaints relating to depression and anxiety during their first admissions.

## CONCLUSION

We presented a case of eye drop abuse; which has been comorbidity with BD. Comorbidity of drug abuse, depression, and chronic rheumatologic diseases can cause severe and devastating effects on the quality of patients' lives. Due to the lack of knowledge about the drug abuse for self-medication about major depression and anxiety disorders, there is a need for further research to confirm the efficacy of anticholinergic eye drops.

**Acknowledgements:** None.

**Conflict of interest:** None to declare.

### Contribution of individual authors:

Ayşegül Şahin Ekici & Şengül Şahin: research idea, study design, manuscript writing, literature search.

Emine Nur Sargın: interpretation of data.

Bahadır Demir: research idea, manuscript writing.

Gülçin Elboğa: research idea, case supervision.

Abdurrahman Altındağ: manuscript revising, case supervision.

## References

1. Akkaya C, Zorlu Kocagoz S, Sarandol A, Eker SS, Kirli S. Addiction to topically used cyclopentolate hydrochloride: a case report. *Prog Neuropsychopharmacol Biol Psychiatry* 2008; 32 :1752-1753.
2. Buhrich, N., Weller, A., & Kevans, P. Misuse of anticholinergic drugs by people with serious mental illness. *Psychiatr Serv* 2000; 51: 928-929.
3. Can Sandikci S, Colak S, Omma A, Enecik ME. An evaluation of depression, anxiety and fatigue in patients with Behçet's disease. *Int J Rheum Dis* 2019; 22: 974-979.
4. Darcin, A. E., Dilbaz, N., Yilmaz, S., & Cetin, M. K. Cyclopentolate hydrochloride eye drops addiction: a case report. *J Addict Med* 2011; 5: 84-85.
5. De Oliveira Ribeiro NP, de Mello Schier AR, Pessoa TM, Pereira VM, Machado S, Arias-Carrión O. et al. Depression as a comorbidity in Behçet's syndrome. *CNS Neurol Disord Drug Targets* 2014; 13:1041-1048
6. Erberk-Ozen, N., Birol, A., Boratav, C. And Kocak, M. Executive dysfunctions and depression in Behçet's disease without explicit neurological involvement. *Psychiatry Clin Neurosci* 2006; 60: 465-472
7. Macvicar, K. Abuse of antiparkinsonian drugs by psychiatric patients. *Am J Psychiatry* 1977; 134: 809-811
8. Ostler, H.B. Cycloplegics and mydriatics: Tolerance, habituation, and addiction to topical administration. *Arch Ophthalmol* 1975; 93: 432-433

### Correspondence:

Research Assistant Ayşegül Şahin Ekici, MD  
Gaziantep Üniversitesi Şahinbey Uygulama Ve Araştırma  
Hastanesi Psikiyatri Anabilim Dalı- Şehitkamil,  
Gaziantep, Turkey  
E-mail: asahinekici@gmail.com