A Case Report: Obsessive Compulsive Disorder Induced by Isotretinoin Treatment

Duygu Kılıçaslan[1], Dursun Hakan Delibaş[2]

[1]Başakşehir Çam and Sakura City Hospital, Department of Psychiatry, İstanbul, Türkiye [2] Freelance Physician

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Corresponding Auther:

Duygu Kılıçaslan, e-mail: duygucal@hotmail.com.tr

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ABSTRACT

In this article, the emergence and treatment process of obsessions with pollution and cleaning compulsions in a 20-year-old female patient with a familial history of OCD (obsessive compulsive disorder) and isotretinoin (40 mg/day for 5 months) use are described. OCD symptoms related to isotretinoin use have been reported in the literature. The aim of this case report is to emphasize the importance of psychiatric examination in patients who are started or considered to be started on isotretinoin.

Keywords; isotretinoin, obsessive-compulsive disorder, case report, drug-induced OCD, neuropsychiatric side effects

INTRODUCTION

Isotretinoin (13-cis-retinoic acid), a systemic retinoid, was approved for use by the Food and Drug Administration (FDA) in the United States in 1982 and in Europe (except Sweden) in 1983. Its primary use is to treat severe cases of refractory acne vulgaris. Isotretinoin is used in the treatment of various inflammatory skin diseases, including rosacea, hidradenitis suppurativa, folliculitis decalvans, seborrheic dermatitis, and psoriasis. It is also effective for treating skin cancers like basal cell carcinoma and squamous cell carcinoma, as well as specific conditions such as leukoplakia, keratoacanthoma, and cutaneous T-cell lymphoma. Furthermore, it is prescribed for genodermatoses like xeroderma pigmentosum and ichthyosis, for cutaneous HPV infections (warts and condyloma acuminata), and for aesthetic concerns such as photoaging and sebaceous hyperplasia [1]. As a result of the studies conducted for isotretinoin treatment, contraindications and relative contraindications were determined. Contraindications include women who are unable or unwilling to use effective contraception, those who are pregnant or breastfeeding, and those planning to become pregnant. It is also contraindicated in individuals with hypersensitivity to the drug's preservatives, individuals currently taking vitamin A supplements, and those who have received a blood transfusion (during and 1 month after treatment). Additionally, it should not be used in individuals with a

history of bipolar disorder [2]. Therefore, a detailed psychiatric evaluation of the patient is necessary before starting the drug.

There are reported cases diagnosed with acute psychosis, delusional disorder, depression, anxiety disorder and obsessive-compulsive disorder (OCD) that occurred with isotretinoin use [3-6].

This case report highlights a rare but clinically significant event: the development of OCD symptoms in a patient with a family history of the disorder, following the initiation of isotretinoin treatment. The aim of this report is to underscore the critical need for vigilant psychiatric screening and monitoring in patients receiving isotretinoin, particularly in those with a genetic predisposition. The patient's history, diagnostic process, and response to treatment are presented in detail below.

CASE

Informed consent was obtained from the patient for this case report. Our case is a 20-year-old woman who was referred from the dermatology outpatient clinic to our hospital's psychiatry outpatient clinic for psychiatric evaluation. She had started oral isotretinoin 40 mg/day five months prior at an external center for acne. Three months into this treatment, she developed severe obsessions of pollution and compulsions of cleaning, leading to the dermatology consultation. In the initial examination of the patient, it was learned that she had no previous psychiatric admission or treatment and her sibling used medication with a diagnosis of OCD. It was learned that she had subthreshold suspicion obsessions that did not meet the diagnostic criteria before treatment. It was learned that she had dirty hands which started 3 months after she started acne treatment, she could not be convinced that she was cleaned in the bathroom, she had cleaning compulsions that lasted about 3 hours a day, her anxiety was added to the thought of dirtiness in the process, her functionality deteriorated and complaints such as demoralization and malaise were added in the last month.

Upon initial psychiatric examination, the patient presented with significant anxiety directly related to her contamination obsessions and cleaning compulsions. Her mood was dysphoric, characterized by feelings of demoralization and malaise, consistent with the reported deterioration in functionality over the past month. Thought content was dominated by intrusive, distressing thoughts of dirtiness, which she actively tried to resist. Psychomotor activity appeared normal, and there were no signs of psychosis or suicidal ideation. She exhibited good insight into her condition, acknowledging the irrationality of her obsessions and compulsions. At initial psychiatric examination, her Yale Brown Obsessive Compulsive Scale (Y-BOCS) score was 26 points. Sertraline 50 mg was started for the patient's current complaints. Isotretinoin discontinuation was not recommended because the depressive symptoms were not intense and she had no suicidal ideation. The patient was seen at the follow-up visit one month later, it was learned that the patient used the drug for 5 days due to nausea and then discontinued it, and dermatology was consulted for a change in isotretinoin treatment due to a significant increase in depressive symptoms. Isotretinoin treatment was discontinued by dermatology and topical treatment was started. Due to the existing gastric complaints and anxiety symptoms, the patient's treatment was adjusted as proton pump inhibitor, hyoscine-N-butyl bromide-medazepam combination and sertraline. At a follow-up visit 3 weeks after treatment adjustment (which included sertraline), her Y-BOCS score was 21 points, indicating partial clinical relief. However, after 2 months on sertraline 50 mg, her Y-BOCS score increased to 27 points, indicating treatment non-response, likely due to an insufficient dose for symptom severity and initial non-compliance. Sertraline was discontinued and clomipramine was switched, starting at 25 mg/day and rapidly titrated to 75 mg/day. Following the switch to

clomipramine, after 1 month of ongoing treatment, her Y-BOCS score showed partial improvement, decreasing to 18.

DISCUSSION

In our 20-year-old patient, the onset of pollution obsessions and cleaning compulsions 3 months after isotretinoin treatment was initiated for acne treatment, the presence of previous subthreshold suspicion obsessions and a sibling diagnosed with OCD in the family suggested a genetic predisposition to this disease, but no other medical condition or drug use that might be a precipitating factor was found.

Decrease in orbitofrontal brain functions is observed in cases of depression secondary to isotretinoin use [7]. In addition, isotretinoin is thought to cause prefrontal dopaminergic imbalance and a decrease in orbitofrontal metabolism, leading to the emergence of OCD [6]. This neurobiological impact of isotretinoin may interact with pre-existing genetic vulnerabilities, such as a familial history of OCD, potentially lowering the threshold for symptom manifestation. Thus, isotretinoin might act as an environmental trigger in genetically predisposed individuals, unmasking or exacerbating subclinical obsessive-compulsive tendencies. This interaction underscores the importance of thorough psychiatric screening in at-risk patients [8]. In a study, an increase in obsessive suspicion symptoms in individuals receiving oral isotretinoin treatment and a relationship between isotretinoin use and a decrease in orbitofrontal metabolism, which is known to play an important role in the formation of obsessive-compulsive symptoms, was shown by functional neuroimaging [9].

The Naranjo Adverse Drug Reaction Probability Scale, a tool used to assess causality between a drug and an adverse event, provides a score where a relationship is considered definite (≥9), probable (5-8), possible (1-4), or doubtful (≤0). A score of 5 was obtained for this case, which was evaluated as a probable relationship [10].

OCD is a chronic mental disorder that significantly affects functionality characterized by unwanted intrusive thoughts (obsessions) and repetitive behaviors (compulsions) that the individual feels compelled to perform [11,12]. The prevalence of OCD varies between 1.9-3.3% (approximately 2-3%) (13). In OCD, Mataix-Cols et al. found that the genetic contribution was approximately 50% [14].

In the literature, an increase in obsessive suspicion symptoms was found in psychiatric screening performed in patients using isotretinoin, and it was observed that there was no information about the family history in a patient diagnosed with OCD with drug use [6,8]. In the light of these data, it was observed that isotretinoin use may lead to an increase in obsessive symptoms, and in our case, it was thought that our patient with a familial history of OCD may have been diagnosed with OCD and needed treatment. There are still questions about whether the OCD with isotretinoin is “Substance/Drug-Induced OCD and Related Disorder” or whether isotretinoin plays a role as an environmental factor. Our case adds to this ongoing debate by demonstrating a clear temporal association between isotretinoin use and OCD onset, particularly in a patient with a pre-existing familial vulnerability, suggesting isotretinoin may act as a potent environmental trigger. The persistence of symptoms even after the discontinuation of isotretinoin treatment suggests that isotretinoin may not only act as a trigger but also unmask an underlying psychiatric predisposition, necessitating long-term treatment.

CONCLUSION

Isotretinoin, which has been used as an effective drug in the treatment of resistant acne since 1982, continues to be used despite the FDA warning that it may lead to various psychiatric problems such as depression, psychosis and suicide attempts [14]. During treatment, special attention should be paid to

patients with a history or family history of psychiatric disorders, and patients receiving isotretinoin treatment should be monitored for the development of psychiatric disorders even if they do not have a family history. Close follow-up in case of obsessive-compulsive symptoms, initiation of treatment if the diagnostic criteria are met, as in our case, planning the discontinuation of isotretinoin treatment according to the accompanying symptoms and clinical severity of the disease at the time of evaluation, and following up the patient at short intervals may help patients regain normal mental health. This case highlights the critical need for proactive psychiatric screening and close monitoring in patients on isotretinoin, especially those with a familial history of psychiatric disorders. Early recognition and interdisciplinary management can significantly improve patient outcomes and minimize morbidity associated with this medication. In addition, being careful in terms of various psychiatric symptoms in patients without known risk factors and referring them to a psychiatric clinic quickly when necessary can both clarify the patient's diagnosis and provide rapid access to treatment.

Declaration of Interests

The authors declare that they have no known competing personal interests that could have influenced the work reported in this paper.

Author Conflict Statement

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