

PATIENT WITH PARKINSON'S DISEASE AND DEPRESSIVE SYMPTOMS ASSOCIATED WITH IMPULSE CONTROL DISORDER

Kanae Migita¹, Naomichi Okamoto¹, Atsuko Ikenouchi^{1,2}, Reoto Kijima¹, Tomoyo Hashimoto³, Hiroaki Adachi³ & Reiji Yoshimura¹

1 Department of Psychiatry, School of Medicine, University of Occupational and Environmental Health, Fukuoka, Japan

2 Dementia Centre, Hospital of Occupational and Environmental Health, Fukuoka, Japan

3 Department of Neurology, School of Medicine, Occupational and Environmental Health, Fukuoka, Japan

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INTRODUCTION

Parkinson's disease (PD) is characterized mainly by motor symptoms such as tremors, bradykinesia, and rigidity; however, they are also often cause psychiatric symptoms such as depressive symptoms (Reijnders et al. 2008). Furthermore, impulse control disorders (ICD) may occur during the treatment of patients with PD and are characterized by severe behavioral and affective disturbances that interfere with social life. To date, there have been few reports on the treatment progress of depressive symptoms caused by ICD that emerge during PD treatment. Here, we report a patient with a case of PD presenting with depressive symptoms that appeared along with exhibitionism as ICD.

CASE PRESENTATION

A 59-year-old Japanese male patient with PD was referred to our psychiatry department. One year prior to the current admission, he was arrested and detained twice for exposing himself to women due to sudden uncontrollable lust after drinking. He entered a convenience store wearing only stockings; therefore, he was admitted to our neurology department with a suspected drug-induced ICD due to dopamine agonists. He had been receiving levodopa-carbidopa hydrate 700 mg, rotigotine 18 mg, and opicapone 25 mg. During hospitalization, another patient saw him touching his genitalia outside his hospital room. In addition, when a nurse visited his hospital room, he exposed his lower body and continued touching his private parts without paying attention to the nurse's question. He stated that he had engaged in these series of acts without awareness. He was referred to a psychiatrist because of depressive symptoms; he appeared conflicted, distressed, depressed, and anxious. He was not taking antidepressants at the time. He believed that sexual harassment and other antisocial behaviors were unacceptable. His Mini-Mental

State Examination scores were 26/30 (decreased attention, memory retention, and comprehension) and Frontal Assessment Battery scores were 12/18 (decreased flexibility of thought and inhibitory control), with no marked cognitive decline, including frontal lobe function. He scored 14 points on the Hamilton Depression Rating Scale, which grades depression, guilt, insomnia, decreased activity, thought suppression, anxiety, appetite, physical symptoms, and psychosomatic symptoms. His symptoms background suggested that the depressive symptoms were due to regret and psychosocial distress over sexually deviant behavior. Because of suspected drug-induced ICD, rotigotine was discontinued and changes in psychiatric symptoms prior to initiation of antidepressants were monitored. The patient was discharged from the neurology department on the 15th day after admission without Parkinsonism exacerbation due to rotigotine discontinuation. Three months after being released from the hospital, the patient's sexual desire continued to decline, and no additional signs of abnormal sexual behavior or impulse control issues were observed. Furthermore, it appeared that the patient's depression did not worsen, as they were able to manage their impulsiveness effectively, leading to the conclusion that antidepressants were not required. The patient's Hamilton Depression Rating Scale score decreased to five points, indicating improvement in depression, guilt, thought suppression, appetite, and physical and psychosomatic symptoms. Since then, the patient has remained free of any problematic social behaviors or depressive symptoms.

DISCUSSION

To our best knowledge, this is the first report of improvement in depressive symptoms without antidepressants by assessing social and symptom backgrounds in a case of drug-induced ICD in a Japanese patient with PD. Because some types of antidepressants have been reported

to worsen parkinsonian motor features, unnecessary antidepressant administration should be avoided. Exhibitionism causes clinically meaningful distress or social and occupational dysfunction because of sexual urges and fantasies. Earlier onset, male sex, and use of high-dose dopamine agonist stimulants are thought to contribute to the development of ICD (Solla et al. 2015)—this case fits these characteristics in several aspects. Exhibitionistic disorder is generally difficult to treat, and it is mainly treated with antidepressant drugs. Behavioral disorders with an uncontrolled desire for pleasure are associated with overactivity of ventral striatal circuits forming the brain reward system and overstimulation of dopamine receptors distributed in the nucleus accumbens. Dopamine agonists are thought to induce sensitization of the limbic ventral striatum and motor dorsal striatum, leading to a transition from apathy to impulse control disorder (Garcia-Ruiz 2018). Excessive dopaminergic stimulation in the striatum may reflect dysregulation of dopaminergic signaling pathways (Alexander et al. 1990). However, dopamine blockers have been reported to induce sexual hyperactivity (Stefanou et al. 2020), the mechanism is speculated to be an indirect increase in dopamine activity in the mesocortical-dopaminergic pathway due to blockade of serotonergic neurotransmission. Although dopamine may have a significant role in paraphilic disorders, the actual pathophysiology is presumably more complex. In this case, although it was not possible to clearly determine the cause, it was suspected that rotigotine might have been the cause of the exhibitionism, based on the course of the symptom improvement. We could improve difficult-to-treat exhibitionism by only discontinuing dopamine agonists without administering antidepressants. Before using antidepressants, clinicians should always

consider the possibility that reducing the medication dose may improve exhibitionism.

CONCLUSION

We reported a case of PD with depressive symptoms associated with ICD. In this case, exhibitionism improved after rotigotine discontinuation, suggesting the importance of detecting drug-induced exhibitionism. In the treatment of depressive symptoms associated with PD, the patient's social and symptom background should be considered when making treatment choices.

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Ethical Approval and Consent to participate: All actions described in this case report were conducted in accordance with ethical guidelines of the Declaration of Helsinki in 1995 (as revised in Edinburgh 2000). This was a case report and the Ethics Committee of the University of Occupational and Environmental Health excused the review.

Informed consent: Informed consent was obtained from the patient for participation and publication of anonymous information in this case report.

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Correspondence:

Reiji Yoshimura
807-8555, 1-1, Iseigaoka, Yahatanishi-ku, Kitakyushu-shi
Department of Psychiatry, University of Occupational
and Environmental Health, Fukuoka, Japan
yoshi621@med.uoeh-u.ac.jp / +81-93-691-7253