Worsening of OCD Symptoms after Psilocybin: A Case Report

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INTRODUCTION

Obsessive-compulsive disorder (OCD) is a significantly debilitating psychiatric condition marked by intrusive thoughts and compensatory behavior to relieve stress and anxiety [1]. First-line treatment for OCD commonly involves selective serotonin reuptake inhibitors (SSRI), but research has noted there is variable treatment efficacy between patients. More recently, psychedelic research has regained popularity in modern-day pharmaceuticals and is showing promising potential as an adjunct to therapy in anxiety disorders [2]. This case report details a 24-year-old male who suffered from OCD, generalized anxiety disorder, and major depressive disorder that self-medicated with psilocybin mushrooms to ease the burden of his symptoms.

CASE PRESENTATION

RM was a 24-year-old white male who voluntarily presented to the emergency department (ED) requesting assistance with alcohol detoxification. On arrival at the ED, he noted that it had been 48 hours since his last alcoholic beverage but denied perspiration, tachycardia, hypertension, nausea, vomiting, diarrhea, hallucinations, or seizures. His past medical history was significant for OCD, generalized anxiety disorder, and major depressive disorder. His alcohol use had been ongoing for four months, and he became fearful about the effects it was having on his body. This fear of bodily harm was a common theme with his OCD, stemming from intrusive thoughts of unsafety and recurring mental rituals to resolve the anxiety.

He noted that early manifestations of his OCD presented as auditory and visual hallucinations. He believed that he heard God and aliens telling him he would be punished and arrested for his inappropriate thoughts. This fear of being punished instigated ritualistic behavior and repetition of specific word phrases. He was started on SSRI pharmacotherapy with little improvement, although this regimen was frequently adjusted throughout his medical history. His current medication regimen consisted of various anxiolytic medicines like guanfacine, hydroxyzine, buspirone, and trazodone, which he noted improved his quality of life.

RM's substance use history began around the time he started college. He stated that his passion for neuroscience and artificial intelligence fostered his desire to learn about psychoactive substances and the potential mind-altering effects they could have on his illness. He has used marijuana daily via a tetrahydrocannabinol (THC) edible or water pipe since the age of 18. He also vaped nicotine for two years to distract his preoccupations with college stresses. Eventually, he quit after he experienced an e-cigarette and vaping use associated lung injury (EVALI), contributing to his anxiety about the impact it would have on his lungs and general health. Additionally, he had been receiving intravenous (IV) ketamine treatments every two months over the past two years. He received 70 mg of ketamine over 45 minutes with an additional 35 mg IV bolus at the start of the infusion and a 30 mg IV bolus 15 minutes after initiating the infusion for a total of 135 mg of ketamine at each visit. He stated that these treatments caused dissociative effects and experienced meaningful insights and personal

realizations. After the treatments, he felt "less afraid of death and less suicidal." More recently, RM introduced alcohol into his self-medicating regimen. He consumed ten cans of beer daily for four months to ease the burdens of his anxiety and OCD. He expressed distress about this quantity, compelling him to find help with detoxification.

RM also informed us of his experimentation with psilocybin "magic mushrooms" he consumed two weeks prior to his psychiatric admission. In his most recent psilocybin experience, he consumed five grams of mushrooms. During the experience, he described dissociative qualities that were "dream-like," including depersonalization and derealization. He was unaware of what was real, causing significant distress and panic. When this psychedelic experience eventually subsided, he was left in a state of worsened anxiety and uneasiness. During our conversation two weeks later, he stated that he had ongoing dissociative effects and prosopagnosia, or an inability to recognize faces. He noted that he would not use this substance again after this experience.

RM stayed for a total of three days in the psychiatric unit. He arranged to immediately attend a substance use program through his school to stay in good standing with his academic career. After close monitoring for the resolution of alcohol withdrawal symptoms, he was discharged directly to this rehabilitation program.

DISCUSSION

Patients with OCD are vulnerable to social impairment and diminished quality of life if left untreated. The pathophysiology is still not completely understood but is thought to be related to overactivity of dopaminergic and glutamatergic neurotransmission in the frontostriatal pathway and decreased activity of serotonergic and GABAergic activity in the frontal-limbic system [1]. Upwards of 40 to 60% of patients will have partial to no symptomatic resolution with SSRI medications, even though extensive research supports their efficacy [3]. Second-line treatments have been considered and examined through simple case reports and small clinical trials, such as amphetamine use with concurrent caffeine intake, opioid augmentation, glutaminergic agents like ketamine, and neuroleptic augmentation with antipsychotics [4]. Although these findings show intriguing data, further research into these interventions is necessary to determine the degree of clinical significance each of these therapies provides, especially for treatment-refractory patients. As with the patient described in this case report, some patients grow frustrated with treatment resistance and seek out treatment on their own via the underground use of psychedelics. Multiple clinical trials are being conducted with psilocybin for the treatment of major depressive disorder, OCD, and PTSD [5,6,7]. Some studies have reported a decrease in intrusive thoughts with the resolution of some, or a majority, of the symptoms after controlled administration [8]. The significance of this case report is that it presents a precautionary anecdote describing the danger of unregulated psilocybin use outside of a formal clinical setting with concurrent psychotherapy.

In RM's case, he was prescribed anxiolytic prescriptions for years without long-term success. His inability to cope with his illness ultimately led him to experiment in an uncontrolled setting with a substance that he was unfamiliar with. Depending on the species of mushroom, the five grams he reportedly consumed is likely to have contained four times the amount of psilocybin that is currently being studied [8]. This amount of psilocybin has not been documented in any case report or clinical studies, leading to the possible misconception that "the more, the better." Furthermore, chronic ketamine infusions in combination with uncontrolled

psilocybin may have added to his adverse reaction. Documenting all substance use history is important as these experiences can cause meaningful or detrimental effects on the patient.

RM's reaction was unique and added valuable information to develop a safety management protocol in patients with refractory OCD. Determining the upper limit of psilocybin is important to add to its efficacy profile and to protect patients from a psychotropic experience that can worsen treatment outcomes. For future clinical studies, psychedelic substances like psilocybin should address the need for treatment-refractory psychiatric illnesses, including OCD, that proves high-quality results of efficacy and therapeutic potential.

AUTHOR INFORMATION

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