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Case Report

When Smell Becomes the Shadow: A Case Report of Olfactory Reference Disorder

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ABSTRACT

Olfactory Reference Disorder (ORD) is defined by a continuous fixation on the belief that one is exuding an unpleasant or offensive body odor or breath, which is either imperceptible or only marginally detectable by others. This report describes a 26-year-old male who sought assistance due to his conviction of emitting a foul odor from his mouth and nose, prompting him to visit multiple dentists and otolaryngologists. His condition led to social withdrawal, resulting in feelings of despair and powerlessness. The Mental Status Examination (MSE) revealed a depressed mood, suicidal thoughts, and an obsession with the perceived smell. Both MRI and EEG findings were normal. The patient was diagnosed with ORD and depression based on the Yale-Brown Obsessive-Compulsive Scale - Olfactory Reference Syndrome (YBOCS-ORS) and the Hamilton Depression Rating Scale (HAM-D). He was prescribed fluoxetine at a dosage of 40 mg, along with a low dose of olanzapine. Furthermore, Cognitive Behavioral Therapy (CBT) was initiated to support his recovery. Ultimately, the patient secured employment. Although he continued to have lingering thoughts of an unpleasant odor at a low intensity, he managed to function adequately and engage in social interactions more effectively.

Key words: Olfactory Reference Disorder, Olfactory Reference Syndrome, Obsessive-Compulsive and Related Disorder, Cognitive Behavior Therapy.

INTRODUCTION

Olfactory Reference Disorder (ORD) or Olfactory Reference Syndrome (ORS) is a condition where individuals are persistently preoccupied with the belief that they are emitting a foul or offensive body odour or breath, which is often either unnoticeable or only slightly noticeable to others. This belief leads to significant self-consciousness, as those affected feel convinced that others are noticing, judging, or discussing this perceived odor.

In response to these feelings, individuals may engage in various repetitive and excessive behaviors. They might frequently check for body odor, seek reassurance from others, and go to great lengths to camouflage or alter the perceived smell. Many patients also avoid social situations or triggers that increase their distress regarding the odour. The impact of these symptoms can be profound, resulting in considerable distress or impairment in their ability to function in personal, family, social, educational, or occupational settings. ORD is recognized in the 11th revision of the International Classification of Diseases (ICD-11) as part of the category of obsessive-compulsive and related disorders (World Health Organization [WHO], 2019).

Historically, ORD has been categorized differently in various editions of the Diagnostic and Statistical Manual of Mental Disorders (DSM), appearing as atypical somatoform disorder in DSM-III, as an example of delusional disorder in DSM-IV-TR, and as other specified obsessive-compulsive disorders in DSM-5. These shifts in classification have contributed to confusion within the psychiatric community about how to understand and treat ORD, especially when patients may present with other comorbid conditions. [1]

This disorder often coexists with several other mental health issues, including major depressive disorder (MDD), bipolar disorder, and substance use disorder. MDD, in particular, is frequently reported as the most common comorbidity, with overlapping symptoms that can complicate treatment. [2]

ORD itself is considered rare, and its prevalence remains unclear. Studies suggest rates ranging from 0.5% to 6.4%, indicating it might be more common than previously thought. [3, 4, 5, 6] However, the lack of standardized diagnostic criteria leads to a variety of assessment methods across studies, compounded by differences in patient populations around the world. The condition's delusional aspects, along with the secrecy and shame often felt by individuals, contribute to an underestimation of its prevalence. [7]

In this report, we share the case of a patient with ORD who was initially hesitant to seek help from a psychiatrist because of poor insight. Fortunately, the patient showed improvement with a combination of medication and cognitive behavioral therapy (CBT) for his comorbid depression, and he later continued therapy for ORD.

CASE REPORT

A 26-year-old male was brought to the psychiatry outpatient department by his family members with chief complaints of visiting multiple dentists and otorhinolaryngologists for a bad odour, which he described as smelling like "rotten egg" emanating from his mouth and nose. The illness started gradually seven years ago, when one of his relatives told him that his breath smelled bad and advised him to brush properly. After that incident, he became increasingly preoccupied with the perceived bad smell coming from his mouth and nose. He started brushing 4 to 5 times a day, gargling with salt water, and cleaning his tongue repeatedly. He was constantly observing the behavior of people around him to see if they were annoyed by his bad breath. When he saw someone touching or rubbing their nostrils, he related it to the perceived odour. He described these incidents as profoundly embarrassing and anxiety-provoking, causing him to exit the situation at the first opportunity. The patient exhibited a persistent distrust of medical professionals, leading him to seek consultations from multiple doctors whenever one declined to provide further intervention. In this process, he visited multiple dentists and otorhinolaryngologists and used several courses of antibiotics, antihistamines, and antacids. He underwent tonsillectomy and turbinectomy, but his symptoms did not improve. Finally, his family members, feeling exhausted, took him to a psychiatrist on the advice of a surgeon, but the patient refused any medication, believing he did not have a psychiatric problem.

Due to his illness, he changed jobs multiple times and stopped going out of the house or socializing with others, which led him to feel hopeless and helpless. Many times, he thought that it would be better if he died, but he neither had active plans nor attempted to self-harm. The patient stopped eating rice and pulses, believing this would help reduce the bad breath, but nothing seemed to work for him. He lost more than 10 kg of body weight in 6 months, after which he was forcefully brought by his family members to the psychiatry hospital.

On physical examination, the patient was thin-built and malnourished. Rapport was established with difficulty. He reported a dull mood and death wishes but denied any active suicidal ideas. He was preoccupied with the foul odour coming from his mouth and nose. All blood investigations were normal except for a low haemoglobin value. Viral markers were negative. Magnetic resonance imaging (MRI) of the brain was normal. An electroencephalogram (EEG) was performed to rule out temporal lobe seizures and showed no abnormalities. There was no prior history of substance use. There is also no documented history of psychiatric illnesses. Family history is unremarkable with no known psychiatric disorders. Additionally, the patient has no significant medical comorbidities. On the Yale-Brown Obsessive-Compulsive Scale-Modified for Olfactory Reference Syndrome (YBOCS-ORS), the patient scored 36, indicating severe illness, and his HAM-D score was 26. The provisional diagnosis as per ICD-11 was 6B22.1 Olfactory Reference Disorder with poor to absent insight and 6A70.3 Single Episode Depressive Disorder, severe, without psychotic symptoms, and the patient was provided Psychoeducation on the disorder.

Inpatient care was advised due to poor insight, but the family members were not willing. He agreed to take medications for his depression. He was prescribed the tablet Fluoxetine 20mg, titrated up to 40 mg, along with a low dose of olanzapine (5mg) and provided with Psychoeducation. The patient's mood improved, and he resumed normal eating habits. His preoccupations with the foul odour decreased, which the patient was also able to perceive. He began attending outpatient-based cognitive behavioural therapy sessions along with behavioural exposure-based techniques, which increased the patient's exposure to social risk and avoided situations without compulsive hygiene behaviours. After 3 months of taking medications and therapy, his HAM-D score decreased to 12, and his YBOCS score also reduced to 14, indicating mild symptoms. He completed 12 sessions of CBT but continues to take medication.

The patient eventually found a job. Although he continued to experience persistent thoughts of bad odour in low grade, he was able to function adequately and engage in social interactions more effectively.

DISCUSSION

Although the exact causes of Olfactory Reference Disorder (ORD) are still unclear, it's likely a combination of neurobiological, genetic, behavioural, cognitive, and environmental factors. [8] Like Obsessive-Compulsive Disorder (OCD), ORD may involve a brain circuit that connects the

orbitofrontal cortex to the striatum and thalamus. When this circuit is active, intrusive thoughts and urges can dominate a person's attention, leading them to engage in behaviours aimed at neutralizing these unwelcome sensations. In the case of ORD, negative experiences with smells might trigger the disorder in individuals who are already predisposed. The term "Olfactory Reference Disorder" was first introduced by Pryse-Phillips in 1971 to describe the experiences of 137 patients who reported olfactory hallucinations of unpleasant bodily odours. [9]

Several medical conditions can result in a verifiable body odour. Common examples include skin disorders like hyperhidrosis, oral issues such as halitosis and dental abscesses, genital problems like rectal fistulae, and metabolic disorders like trimethylaminuria. If a patient does not meet the classical features of ORD, it's important to consider other underlying causes. In rare cases, specific presentations of ORD can stem from conditions such as temporal lobe epilepsy (TLE), arteriovenous malformations, and Parkinson's disease. When olfactory hallucinations occur, they may indicate the presence of TLE.

When it comes to psychiatric differentials, body dysmorphic disorder, OCD, social anxiety disorder, and other somatic delusional disorders must be considered. Occasionally, conditions like major depression with psychotic features, bodily distress disorder, or avoidant personality disorder can present with similar characteristics to ORD.

We also need to recognize the line between normal concern and disorder, especially in cultures where the fear of emitting offensive odours is common. Both the ICD-11 and DSM-5 touch on these cultural aspects. For example, in Japan and Korea, the condition known as Taijin Kyofusho reflects an intense fear of offending or embarrassing others through one's behavior, body movements, or appearance. The specific fear related to body odour is referred to as Jikoshu-Kyofu (Jiko meaning oneself, Shu meaning odor, and Kyofu meaning fear). To differentiate ORD from typical or culturally bound concerns about body odour, we can look at the degree of preoccupation, the frequency of related rituals, and the severity of distress or disruption caused by these symptoms. [10]

Treatment strategies for ORD highlighted in the literature include using Selective Serotonin Reuptake Inhibitors (SSRIs) either alone or in combination with antipsychotics. Antipsychotics can also be used as standalone treatments. Studies have indicated that SSRI therapy, whether alone or in combination with an antipsychotic, tends to be more effective than using antipsychotics alone. This challenges the commonly held belief that ORD is merely a type of "delusion". [11]

The varied responses to dual pharmacological approaches underscore the necessity for comprehensive treatment strategies that acknowledge the complex nature of ORD, addressing both its psychotic and anxious components for more effective management. When it comes to non-pharmacological treatments, some case studies have reported positive outcomes with approaches like behavioural techniques, eye movement desensitization and reprocessing, and cognitive

behavioural therapy. There are even instances where patients have shown improvement with psychotherapy alone. Additionally, there are reports of patients experiencing benefits after undergoing electroconvulsive therapy (ECT) as an adjunct to their existing pharmacological treatment.

Unfortunately, data on the prognosis for ORD remains limited. Case reports and series have not consistently measured treatment outcomes or responses; some have relied on different rating instruments, while others have simply noted symptom improvements over varying time frames. Furthermore, comorbidities have not been systematically analysed when reporting treatment responses.

Limitation

This single subject case report has limitations including, potential recall bias and the need for long-term follow-up to assess sustained outcome. Despite of these limitations, this case illustrates a successful outcome for ORD with a combination of SSRI and CBT and need for an early psychiatric referral and multidisciplinary collaboration which will affect the clinical outcome.

CONCLUSION

Patients presenting for medical care often go undiagnosed with Olfactory Reference Disorder (ORD). When physicians suspect ORD, they should screen for related symptoms, educate patients about the condition, and refer them to mental health professionals for further evaluation and treatment. Patients with ORD often lack insight into their condition, making treatment challenging. They may present to psychiatrists with comorbid depression, which can be leveraged to build rapport. By addressing depression, patients can develop trust with the doctor, becoming more receptive to ORD treatment. By showing concern and providing education, doctors can help patients gain insight into their condition and encourage them to seek mental health support. Identifying ORD early and making appropriate referrals can prevent unnecessary medical interventions and avoid exacerbating the patient's psychiatric symptoms. However, more research is needed to better understand ORD and identify more effective treatment methods.

PATIENT CONSENT

A written informed consent was obtained from the patient for publication of this case report.

AUTHORS' CONTRIBUTION

All authors have significantly contributed to the work, whether by following the case at the bedside, conducting literature searches, drafting, revising, or critically reviewing the article. They have given their final approval of the version to be published, have agreed with the journal to which the article has been submitted, and agree to be accountable for all aspects of the work.

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CONFLICT OF INTEREST

None

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