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Somatic-Type Delusional Disorder Presenting as Persistent Perception of Mouth Odor in a 29-Year-Old Male: A Case Report

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Abstract:

➢ ***Background***

Somatic-type delusional disorder involves fixed false beliefs about bodily functions or sensations. A particularly distressing presentation is the conviction of emitting a foul odor, a condition with significant phenomenological overlap with Olfactory Reference Syndrome (ORS). Patients often experience delayed diagnosis due to initial presentations in non-psychiatric settings.

➢ ***Case Presentation***

A 29-year-old male university student presented with a one-year history of a persistent and unshakeable belief that his mouth emitted a foul odor. This belief was maintained despite normal dental and otorhinolaryngological examinations and repeated reassurance. The preoccupation resulted in significant social withdrawal, avoidance of interpersonal interactions, and compulsive oral hygiene behaviors. Mental status examination revealed a fixed somatic delusion and absent insight, in the context of intact cognition and no other psychotic features. A diagnosis of Delusional Disorder, Somatic Type, was made. Management involved a combination of atypical antipsychotics and cognitive-behavioral therapy, leading to a reduction in distress and improved social functioning.

➢ ***Conclusion***

This case underscores the severe psychosocial impairment associated with odor-related somatic delusions and highlights the critical need for early psychiatric intervention. A combined pharmacological and psychotherapeutic approach is effective in managing this condition and preventing chronic disability.

Keywords: *Delusional Disorder; Somatic Type; Olfactory Reference Syndrome; Mouth Odor; Psychosis; Case Report.*

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I. INTRODUCTION

Somatic-type delusional disorder is a psychiatric condition characterized by fixed, false beliefs involving bodily sensations or imagined physical abnormalities, which persist despite incontrovertible evidence to the contrary.[1] An uncommon but profoundly disabling manifestation is the persistent preoccupation with emitting a foul body odor. This presentation has been historically described as monosymptomatic hypochondriacal psychosis and is increasingly conceptualized within the framework of Olfactory Reference Syndrome (ORS).[2] Individuals suffering

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from this condition frequently interpret neutral or mundane social cues (e.g., people scratching their nose or maintaining distance) as confirmation of their perceived odor, leading to severe social anxiety, avoidance, and functional impairment.[3] As these patients often seek help from dentists, dermatologists, or otorhinolaryngologists first, psychiatric referral is often delayed. This case report aims to contribute to the clinical understanding and management of this challenging disorder.

II. CASE PRESENTATION

A 29-year-old male university student presented to our psychiatric facility with a chief complaint of a persistent belief that his mouth emitted a foul, offensive odor for over one year. He reported that this belief was unshakeable and caused him significant distress. He had developed the habit of meticulously observing people's behavior in social settings, consistently misinterpreting actions such as others touching their face, stepping backward, or opening a window as direct reactions to the odor he believed he produced.

This conviction led to marked social withdrawal. He avoided close conversations, group gatherings, and public spaces. He engaged in excessive safety behaviors, including compulsive tooth brushing over three times daily, constant use of chewing gum and mints, and frequent self-smelling. There was no history of formal thought disorder, mood symptoms, hallucinations, or other compulsive rituals unrelated to the odor preoccupation. His family history was significant for an unspecified mental illness in a sibling.

On mental status examination, he was well-groomed and cooperative. His speech was coherent and goal-directed. His thought content was dominated by the fixed somatic delusion of emitting a mouth odor. His affect was appropriate, and his cognition was intact. Crucially, he demonstrated a complete lack of insight, firmly believing his perception was real despite all evidence.

Physical examination, including thorough dental and otorhinolaryngological (ENT) assessments, revealed no pathology. There was no evidence of halitosis, oral infections, periodontal disease, tonsillar pathology, or sinusitis. Routine laboratory investigations were within normal limits.

III. MANAGEMENT AND OUTCOME

The patient was engaged using a non-confrontational, empathetic approach, focusing initially on the distress and social impairment his belief was causing. Pharmacotherapy was initiated with atypical antipsychotics (risperidone, titrated to a therapeutic dose). Concurrently, he received Cognitive-Behavioral Therapy (CBT) targeting cognitive restructuring of misinterpreted social cues, reduction of safety behaviors (e.g., excessive brushing), and gradual exposure to avoided social situations. Over eight weeks, the patient reported a reduction in the intensity of his preoccupation and demonstrated a gradual increase in social engagement, although the core belief persisted.

IV. DISCUSSION

This case illustrates a classic presentation of Delusional Disorder, Somatic Type, with prominent features of Olfactory Reference Syndrome (ORS). The diagnostic challenge lies in differentiating it from other psychiatric conditions such as Body Dysmorphic Disorder (BDD), Obsessive-Compulsive Disorder (OCD), and mood disorders with psychotic features.[4] In this patient, the fixed, non-obsessional nature of the belief and the complete lack of insight were key features distinguishing it from the ego-dystonic obsessions of OCD or the perceived appearance flaws in BDD.

ORS occupies a controversial diagnostic position; while not a standalone diagnosis in the DSM-5, it is often subsumed under “other specified obsessive-compulsive and related disorders” or somatic-type delusional disorder.[5,6] The distinction is clinically important because patients with insight (ORS without delusional conviction) may respond differently to serotonergic agents versus antipsychotics.[7] Our patient’s complete lack of insight and fixed belief despite contrary evidence firmly support a delusional disorder diagnosis, guiding the choice of antipsychotic monotherapy augmented by CBT.

The pathophysiology of odor-related somatic delusions remains poorly understood, but neuroimaging studies suggest involvement of the orbitofrontal cortex, insula, and striatum – regions implicated in both olfactory processing and belief evaluation.[8,9] Additionally, altered functional connectivity between the default mode network and salience network has been proposed in delusional disorders.[10] These neurobiological underpinnings explain why patients cannot be reasoned out of their delusions and why pharmacotherapy targeting dopamine D2 receptors is often necessary.[11]

Epidemiologically, ORS typically presents in late adolescence or early adulthood, with equal gender distribution and high rates of comorbid social anxiety disorder and major depression.[12,13] Our patient’s age (29 years) and absence of mood symptoms are consistent with primary delusional disorder rather than a depressive psychosis. However, the chronicity of his social withdrawal placed him at high risk for developing secondary depression, underscoring the need for early intervention.

The management approach aligns with current evidence, which supports the use of antipsychotics as first-line pharmacotherapy for delusional disorder.[2] Both first-generation (e.g., pimozide) and second-generation antipsychotics (e.g., risperidone, olanzapine) have shown efficacy, though atypical agents are preferred due to a more favorable extrapyramidal side effect profile.[14,15] In our patient, risperidone was well tolerated and led to partial improvement in delusional intensity. The addition of CBT is crucial for addressing the secondary maladaptive behaviors and social anxiety that perpetuate the disability.[3,16] CBT techniques such as exposure and response prevention, cognitive restructuring, and attentional training have been adapted for ORS with promising results.[17]

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A notable challenge in low- and middle-income settings is the delay in psychiatric referral. Many patients first consult dentists, gastroenterologists, or traditional healers, leading to unnecessary investigations and treatments.[18] In our patient, the normal ENT and dental examinations were pivotal in excluding organic causes, yet the patient remained convinced of the odor – a hallmark of delusional disorder. Raising awareness among non-psychiatric clinicians about the clinical features of ORS and somatic delusions could reduce diagnostic delays and improve outcomes.[18]

This case also highlights the importance of cultural considerations. In many societies, body odor is heavily stigmatized and linked to poor hygiene or moral failing.19 Patients may experience shame and secrecy, further delaying help-seeking. A non-judgmental, empathetic stance is essential to build therapeutic alliance and encourage adherence to treatment.

Limitations of this case report include the absence of validated rating scales (e.g., the Yale-Brown Obsessive Compulsive Scale modified for ORS) to quantify symptom severity and treatment response, as well as the relatively short follow-up period. Long-term outcomes, including risk of relapse upon medication discontinuation, remain unknown.

In summary, this case reinforces the importance of a dual treatment strategy combining antipsychotics and CBT. It also highlights a critical public health concern: the need for increased awareness among non-psychiatric medical professionals to facilitate early referral and prevent the chronicity of this highly distressing condition.

V. CONCLUSION

Odor-related somatic delusions, as presented in this case, are severely disabling. A high index of suspicion is necessary for timely diagnosis. Effective management requires a comprehensive bio-psychosocial approach combining antipsychotic medication and cognitive-behavioral therapy to reduce the conviction in the delusion, manage associated behaviors, and improve overall quality of life. Early intervention is paramount to mitigating the long-term social and occupational dysfunction associated with this disorder.

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➢ *Conflicts of Interest*

The authors declare that there is no conflict of interest regarding the publication of this case report.

➢ *Informed Consent*

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

➢ *Ethical Approval*

Ethical approval was not required for this case report in accordance with local/national guidelines. The report involves a single clinical case without experimental intervention.

➢ *Authors' Contributions*

Zubairu Umar: Conception, data acquisition, manuscript drafting, and final approval. Adebayo Adebisi Sunday: Data analysis, critical revision, and final approval. Ahmad Abubakar: Literature review, manuscript editing, and final approval. Abdulaziz Hadi Ibrahim: Clinical management, data interpretation, and final approval. Abubakar Sulaiman Baguda: Supervision, critical revision, and final approval. Folorunsho Nuhu Muftau: Cognitive-behavioral therapy input, manuscript review, and final approval. Junaidu Sarki: Administrative support, manuscript coordination, and final approval.

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