A 26-Year-Old Man with Olfactory Delusions and Addiction to Gamma Hydroxybutyrate

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A 26-year-old man reported that he had been addicted to the drug gamma hydroxybutyrate (GHB, also known as the "date rape" drug) for approximately 4 years and was seeking treatment at a mentally ill and chemically addicted (MICA) program to end his addiction. He stated that he used GHB and alcohol because he had body odor and the drugs helped him to forget this. Approximately 4 years prior to his presentation, two of his friends once mentioned to him that he had some body odor, and since then he has believed people can smell his body odor all of the time. The patient stated that when he passes by he notices that people pinch their noses, look at him, and make some other kind of gesture.

His problematic beliefs had increased over the years and he stopped going to parties and social gatherings with family and friends. He became stressed and anxious when people were sitting near him because he believed they could perceive his body odor. He showered often and used multiple deodorants to suppress his body odor, but it did not change his beliefs. The patient reported symptoms of anhedonia, worthlessness, and very low, poor self-esteem. He spent most days alone watching television, did not socialize with people, and did not want to go out and work.

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He started using GHB as a means of self-medication. The patient denied any episodes of panic attacks, symptoms of posttraumatic stress disorder (PTSD), or obsessive-compulsive disorder (OCD). He reported no manic symptoms, hopelessness, helplessness, or suicidal ideation. No auditory or visual hallucinations were reported either.

The patient had no reported history of any suicidal attempts or ideations. There was a history of emotional and physical abuse by the patient's father; however, no PTSD or related symptoms were reported. The patient had been treated with aripiprazole previously but he developed extrapyramidal symptoms and akathisia, so it was discontinued. Sertraline had also been prescribed to a maximum dose of 200 mg/day without adequate efficacy for depressive symptoms.

The patient started drinking alcohol at age 10 years and has been drinking on and off since then. The patient reports that before he started his rehabilitation, he was drinking only about one weekend per month. The patient reported experimenting with cocaine and cannabis but he never liked the way they made him feel, so he never used them on a regular basis.

There was no significant medical history in the family, and no

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history of mental illness or similar problems in the family. A mental status examination revealed that the patient was oriented to time, place, and person. His memory and language were intact, his appearance was appropriate, and his musculoskeletal strength and gait were normal. His speech was normal, his thought processes were coherent and goal-directed, and his thought association was intact. The patient denied suicidal or homicidal ideation, his judgment was fair, and his insight was moderate

According to the patient, the only time he did not think about his body odor is when he was taking GHB. It helped him forget about his body odor problem and not notice whether other people were reacting to his body odor. A few months before his presentation to our office, the patient relapsed back on GHB and alcohol and was in rehabilitation for 28 days. He was referred back to MICA adult partial hospital care after he completed rehabilitation. It was at this point that the thoughts about his body odor arose again. He completed the MICA program and reported that all his symptoms subsided, including his beliefs regarding his body odor.

The patient was taking these medications at the time of presentation: 2 mg of oral risperidone at bedtime, 150 mg of oral extended-release bupropion every morning, and 50 mg of oral doxepin at bedtime. He tolerated these medications well and was referred to the outpatient department for follow-up to maintain the continuity of care.

DIAGNOSIS

Olfactory Reference Syndrome

Although the patient was seeking treatment for his addiction to GHB, he also reported that he believed he had body odor and that people around him could perceive it and would react to it. The patient showed symptoms of depression and anxiety but they appeared in different contexts. His depressive symptoms were mostly present when he was alone or not using drugs (ie, GHB), whereas his anxiety symptoms were present when he was with people. It should be noted that the patient did not meet the complete criteria for any other depressive, anxiety, or psychotic spectrum disorders per the *Diagnostic and Statistical Manual of Mental Disorders*, fifth edition.[1] The patient was avoiding social gatherings because of his delusion that he smelled badly, and this could be the cause of his depressive symptoms. It is well known that olfactory reference syndrome (ORS) can present with this kind of delusion followed by depressive symptoms.

DISCUSSION

ORS is a delusional disorder in which the patient has a false belief regarding abnormal body odor. They feel that the odor is foul and offensive to others, which in reality is not true. A person suffering from ORS can feel distressed and embarrassed, and may avoid social gatherings or isolate themselves completely.[2] In this case, the patient mainly complained of foul body odor (eg, sweat, breath, urine), but there have been reports of unnatural and nonhuman odors such as detergent, fish, cheese, or medicine.[3] Most cases of ORS involve complaints of bad breath (halitosis) and body odor from sweat. The pathogenesis underlying ORS is not completely understood, and it is often misdiagnosed or confused with other conditions such as body dysmorphic syndrome or OCD. Sometimes, psychiatric comorbidities such as schizophrenia, OCD, and bipolar disorder are associated with ORS.[4]

There are three main diagnostic criteria for ORS: (1) the persistent (>6 months) but false belief that one emits an offensive odor, which in reality is not perceived by others, and there may be degrees of insight (ie, the belief may or may not be of delusional intensity); (2) this preoccupation causes clinically significant distress (eg, depression, anxiety, shame), social and occupational disability, or may consuming a large amount of time (ie, it preoccupies the person at least 1 hour per day); and (3) the belief is not a symptom of schizophrenia or another psychotic disorder, is not due to the effects of medication or recreational drug abuse, and is not caused by any other general medical condition.[3-5]

In this case, the patient presented with most of the symptoms that fit the diagnostic criteria for ORS. He had the false belief (for almost 4 years) that he emitted offensive odor, which in reality is not perceived by others; he was having depressive symptoms such as anhedonia, worthlessness, and low self-esteem; the patient did not have schizophrenia or manic symptoms

or any other psychotic symptoms other than delusion regarding body odor, and his self-medication with GHB provided some relief from his delusions, anxiety, and depression.

The patient reported that his use of GHB and his false belief about his body odor began at the same time, approximately 4 years before his presentation to us. According to the patient, he was not able to go out and became anxious when people were around him due to his false belief, so he started taking the drug to help him remain calm and socialize. He did use other methods at first to combat the ORS, such as using deodorants and taking frequent showers, but they did not help, so he started using the drug regularly.

CONCLUSION

This patient presented with symptoms of depression, anxiety, and substance use. He reported these symptoms in conjunction with a false belief that he was emitting body odor. He also believed that people were reacting to his body odor. An episode in which two of his friends complained about his body odor was the catalyst that triggered this false belief, but the underlying organic cause is not understood. It can be ruled out that the substance abuse was not causing these beliefs because his symptoms were present even when he was not taking any drugs. His beliefs are not symptoms of schizophrenia, social anxiety disorder, OCD, or any other depressive, anxiety, or psychotic spectrum disorders. This case is an example of co-occurring substance use disorder, depression, and anxiety with ORS and how it can be treated successfully.

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