

# Vortioxetine improved olfactory reference syndrome in a patient with major depressive disorder: A case report

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## Dear Editor,

Olfactory reference syndrome (ORS) is characterized by a preoccupation with the belief that one releases an offensive odor that is not perceived by and the patient feels is burdensome to others [1]. Although ORS was first described in the 1800s, the first systematic description in the literature was a case series in 1971 by Pryse-Phillips [2]. Notably, ORS is not categorized in the Diagnostic and Statistical Manual of Mental Disorders, fifth edition (DSM-5); ORS is associated with schizophrenia, delusional disorder, obsessive-compulsive disorder, or mood disorders [3,4]. Here, we present a patient with major depressive disorder (MDD) and ORS who was successfully treated with vortioxetine. To our knowledge, this is the first report of vortioxetine improved ORS in an MDD patient. Written informed consent was obtained from the patient for publication of this case report.

The patient was a 58-year-old Japanese male diagnosed with MDD, based on DSM-5 criteria, 6 months before. While he had external hemorrhoids removed 2 years prior, he had no other past history of psychiatric or physical diseases. He demonstrated depressive mood, anhedonia, psychomotor retardation, anxiety, restlessness, hopelessness, and insomnia. He also described feeling as though his body odor, specifically anally, was unpleasant to people around him. He was first treated with escitalopram (20 mg/day); however, his depressive symptoms did not improve. Escitalopram was tapered off, and paroxetine was started and increased to 40 mg/day. His depressive symptoms demonstrated some response to the paroxetine treatment; however, ORS symptoms persisted. We then augmented the treatment with aripiprazole (3 mg/day), but it had little effect on ORS symptoms. Paroxetine and aripiprazole were gradually tapered off, and treatment with vortioxetine was started and increased to 20 mg/day. On day 14, his depressive symptoms continued to improve, along with ORS symptoms. On day 28, he was considered remitted. On the day 60, he was able to return to work, and demonstrated no difficulties in his daily life while remaining on vortioxetine (20 mg/day).

The treatment of ORS symptoms with tricyclic antidepressants; selective serotonin reuptake inhibitors (SSRIs), such as fluoxetine

or paroxetine; or antipsychotic drugs, such as pimozide, risperidone, or olanzapine, has been previously reported [5-7]. One study demonstrated that the addition of aripiprazole to an SSRI regimen improved ORS symptoms [8]. In the present case, the patient's depressive symptoms partially responded to paroxetine, but his ORS symptoms persisted, despite the low dose addition of aripiprazole. Ultimately, vortioxetine, an SSRI, monotherapy was effective for this patient; however, it remains unclear as to why. The pharmacological profile of this agent differs from other SSRIs. We suggest that as vortioxetine broadly effects several serotonergic receptors and transporters, this may contribute to its efficacy [9].

## Conflicts of interest

All authors did not declare conflicts of interest.

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