

How to help patients with olfactory reference syndrome

Delusion of body odor causes shame, social isolation

Katharine A. Phillips, MD

Professor of psychiatry
and human behavior
Brown Medical School
Providence, RI

David J. Castle, MD

St. Vincent's Hospital
The University of Melbourne
Australia

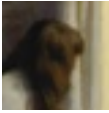
Ms. A, a 21-year-old teacher, recalled always having been “sensitive,” but when she started her first job at age 19 she began to believe that she emitted an offensive odor. She experienced thoughts that she passed offensive flatus, her breath had a fecal odor, and people noticed and were offended.

Gradually Ms. A became more convinced of these distressing beliefs and began to think that she permeated fecal odor through her skin. She also became sure that colleagues were talking about her and that they complained about her “disgusting” smell.



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Patients with olfactory reference syndrome (ORS) falsely believe they emit an offensive body odor. Prominent referential thinking—believing that other people perceive the odor—also is common. To introduce you to ORS, we discuss its clinical diagnosis and treatment based on our review of



Box 1

Patient troubled by 'a very bad odor ... which came from his own person'

Olfactory reference syndrome (ORS) has been described around the world for more than a century. In 1891, Potts described a delusional 50-year-old man who "had been troubled for the past three months with smelling a very bad odor, which he likened to that of a 'back-house,' and which came from his own person. [He believed] this smell was so very strong that other men objected to working with him..."

Despite its long history, the syndrome's prevalence is not well-established. ORS probably is underdiagnosed and more common than generally recognized:

- In a tertiary psychiatry unit in London, 0.5% of 2,000 patients who were not systematically screened for ORS spontaneously reported ORS symptoms.
- In a self-report survey of 2,481 students in Japan, 2.1% had been concerned with emitting a strange bodily odor during the past year.
- In a study in a dental clinic in Japan, the majority of patients with a primary complaint of halitosis actually had "imaginary halitosis" (another term for ORS).

Source: References 1,2,5-9

several hundred cases, including the largest reported series of patients with ORS.¹⁻⁴

CLINICAL FEATURES OF ORS

Ms. A quit her job and felt confident enough to work again only when she performed a 2-hour daily cleansing routine, doused herself in perfume, and placed an incontinence pad in her underwear. Despite these precautions, she still thought her colleagues avoided her.

She always averted her mouth when speaking, held her hand in front of her mouth, and sat far from others and close to the door in meet-

ings. She tried to keep meeting room doors open and believed that colleagues held their hands to their noses to "protect" themselves from her odor.

ORS symptoms are most often reported as beginning when patients are in their mid 20s, although some reports suggest onset during puberty or adolescence.⁴ In clinical series, the ratio of men to women is approximately 2:1.

Preoccupation. Individuals with ORS are preoccupied with the belief that they emit an unpleasant or offensive body odor (*Box 1*),^{1,2,5-9} most commonly:

- flatulence, fecal, or anal odors
- general body odor
- halitosis
- genital odors.¹⁻³

Other perceived odors include sweat, armpit odor, sperm, urine, and malodorous hands and feet.¹⁻³ Occasionally, the imagined odor resembles nonbodily smells, such as ammonia or detergent. The odor is perceived to emanate from corresponding body areas, such as the anus, skin, mouth, rectum, genitalia, feet, nose, or axillae.

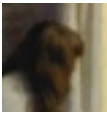
Although most reports suggest that patients focus on one odor, some describe being concerned about several smells simultaneously or different odors over time.^{10,11}

Referential thinking. As the syndrome's name implies, many ORS patients have delusions of reference, falsely believing that other people perceive the odor.³ They misinterpret the behavior of others, assuming it is a reaction to how the patient smells (*Box 2, page 52*).^{2,3}

They may misperceive comments (such as, "It's stuffy in here"), receiving perfume or soap as a gift, or behaviors such as people sniffing, touching or rubbing their nose, clearing their throat, opening a window to get fresh air, putting a newspaper in front of their face, or looking or moving toward or away from the patient.^{1,3,5,7}

Because they are ashamed, embarrassed, and

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Box 2

Delusion, hallucination, or both?

DSM-IV-TR classifies olfactory reference syndrome (ORS) as a delusional disorder, somatic type (the modern equivalent of monosymptomatic hypochondriacal psychosis). ORS also is mentioned in the text on social anxiety disorder. ORS may not be diagnosed if:

- criterion A for schizophrenia has ever been met
- or if symptoms are due to the direct physiologic effects of a substance or a general medical condition, such as a brain tumor or temporal lobe epilepsy.

Many patients report being able to smell the imagined odor, suggesting that they experience an olfactory hallucination. Pryse-Phillips described the olfactory hallucinations of her 36 ORS case patients as “a real and immediate perception... often perceived in the absence of other odors.”

ORS generally is regarded as delusional, with possible secondary illusionary misinterpretations and referential thinking. ORS beliefs usually appear to be of delusional intensity, although some patients may have some—although limited—insight (that is, overvalued ideation).

Source: References 2 and 3

concerned about offending others with their odor,¹³ many patients engage in repetitive and “safety” behaviors intended to check, eliminate, or camouflage the supposed odor (*Box 3, page 55*).^{1,3,7,12,14}

Functional impairment. Individuals with ORS often avoid other people or believe that others avoid them.¹² They are typically embarrassed and worried that others will be offended by the smell. They may:

- avoid activities such as dating
- break off engagements
- refuse to travel
- move to another town
- become housebound.^{3,7,10,12}

Patients may change jobs repeatedly or avoid school or work³ because of shame and embarrassment, a belief that other people talk about the supposed odor, or the patient’s excessive preoccupations and time-consuming repetitive and safety behaviors.^{3,13,14}

The distress and impaired functioning may lead to psychiatric hospitalization, depression, suicidal ideation, suicide attempts, and completed suicide.^{7,10,12,15} Pryse-Phillips studied 36 patients with ORS and reported:

- nearly one-half (43%) experienced “suicidal ideas or action”
- 2 (5.6%) committed suicide.³

Illness course. Most authors suggest that ORS is usually chronic, persisting for years if not decades, with possible worsening over time if patients do not receive appropriate treatment.^{11,15} In a 2-year follow-up study,³ ORS symptoms persisted relatively unchanged in 10 of 11 patients.

Some authors have questioned whether ORS can transform into schizophrenia, but others have found little evidence for this.^{3,6}

Psychiatric comorbidity. Depression is mentioned most often in the literature.^{12,13} In Pryse-Phillips’ 36 ORS patients (who did not have a “primary” depressive disorder), depression symptoms tended to be severe.³ The depression generally is considered secondary to ORS, although Pryse-Phillips evaluated 50 additional patients with ORS symptoms whom she considered to have a “primary” depressive disorder.³ Other psychiatric comorbidities include bipolar disorder, personality disorder, schizophrenia, hypochondriasis, alcohol and/or drug abuse, obsessive-compulsive disorder (OCD), and body dysmorphic disorder.^{3,7,15} In a study of 200 individuals with body dysmorphic disorder, 8 had comorbid ORS.¹⁶

DIAGNOSING ORS

Clinical clues to ORS (*Table 1, page 60*) probably are not present in all patients and some are not

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specific to ORS. They appear to be common features of the illness, however, and may alert you to its presence. Our clinical impression is that many patients with ORS are secretive about their symptoms because they are ashamed of them. Thus, you need to be alert to clues and specifically inquire about ORS symptoms to detect its presence.

Criteria. DSM-IV-TR and ICD-10 lack specific diagnostic criteria for ORS, instead applying criteria for delusional disorder. One problem with this approach is that delusional disorder criteria specify that any co-occurring mood symptoms must be brief relative to the duration of the delusional periods. This requirement may not be valid when applied to ORS.

In our experience, some patients have protracted depressive symptoms that appear secondary to “primary” ORS symptoms, and another diagnosis—such as psychotic depression—does not appear to account for their symptoms.

We propose working diagnostic criteria for ORS (*Table 2, page 61*), which are similar to those proposed by Lochner and Stein¹⁷ and require empiric validation. Suggested questions for the patient interview (*Table 3, page 62*) can help you identify and diagnose ORS.

Differential diagnosis. Keep in mind that a false belief that one emits a bad smell may be a symptom of schizophrenia, and this would trump an ORS diagnosis if other schizophrenia symptoms are present. Some patients with severe depression may believe they smell bad as part of a nihilistic delusional belief system (such as in Cotard’s syndrome—nihilistic delusions in severe depression).

Whether to conceptualize a false belief about body odor as a symptom of depression or as ORS with comorbid or secondary depression may be unclear from case to case.

TREATMENT-SEEKING BEHAVIOR

Ms. A consulted several proctologists and a dentist but was not convinced by their reassurance

Box 3

‘Safety’ and avoidance behaviors seen in olfactory reference syndrome

Excessive showering or washing are among the repetitive, ritualistic or “safety” behaviors many patients with ORS engage in to check, eliminate, or camouflage supposed odor. Frequent clothes changing or laundering also is common.

Camouflaging attempts may include excessive use of deodorant, soap, cologne, powder, mints, mouthwash, or toothpaste; wearing layers of clothing; or smoking.

Many patients frequently check for the odor or its source (such as trying to smell their own breath or checking the anal area for seepage). Some patients use the toilet excessively or eat a special diet to try to minimize the smell. Others repeatedly seek reassurance about how they smell.

Avoidance behaviors are common and include sitting far from other people, moving as little as possible to avoid spreading the supposed odor, or averting the head or covering the mouth.

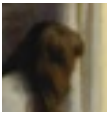
Source: References 1,3,7,12, and 14

and continued to believe she “stank.” Her relationship with her boyfriend suffered because she continually asked for reassurance about how she smelled and avoided sexual intercourse because of her odor concerns.

Eventually she confronted her boss about her belief that her coworkers were complaining about her smell. Despite reassurance that she didn’t smell bad, she left her job.

Medical, surgical, and dental interventions. Because individuals with ORS believe they have a physical problem, many seek evaluation and treatment from nonpsychiatric physicians or dentists.^{1,2,12} Seeking a cure for perceived halitosis, they may consult dentists, general surgeons, or ear, nose, and throat specialists. For perceived anal odors,

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Table 1

Clinical clues to the presence of olfactory reference syndrome

Referential thinking. Interpreting actions of others—such as opening a window, moving away, putting a hand to their nose, or making comments related to odors—as evidence that the person smells offensive

Excessive attempts to ‘disguise’ the smell, such as washing routines, clothes changing, clothes laundering, or using abundant perfume, deodorant, mouthwash, mints, or other forms of camouflage

Other excessive and repetitive behaviors, such as checking for or asking other people for reassurance about the odor

Social anxiety or avoidance of social activities, relationships, work, school, or other daily activities

Requests for treatment for the perceived odor from dentists, gastroenterologists, proctologists, or other nonpsychiatric physicians despite a negative medical workup

they may consult proctologists, surgeons, or gastroenterologists. Some patients have multiple medical workups.

Convincing patients such as Ms. A of the falsity of their beliefs can be difficult,¹ and some succeed in having medical procedures or surgery, such as excision of tonsils or axillary glands.^{3,7,12} To our knowledge, controlled prospective studies of nonpsychiatric treatments have not been done, but it appears that such treatments usually are ineffective.^{1,3,6,9}

Psychiatric interventions. Convincing patients with ORS to obtain mental health treatment can be difficult.^{2,6} Patients with delusional halitosis “would rather go in search of a ‘better dentist’ than go to a psychiatrist.”¹

To get patients to accept psychiatric treatment, we suggest an approach similar to that recommended for body dysmorphic disorder. It may be helpful, for example, to focus on the distress and disability caused by the odor preoccupation, rather than on whether the patient actually smells bad.

MEDICATION AND PSYCHOTHERAPY

Limited evidence. The ORS treatment literature is very limited, consisting largely of case reports and small case series. To our knowledge, no controlled treatment trials have been done, no treatments have been compared head to head, and most studies did not use standardized measurements of psychopathology.

Published data therefore must be interpreted cautiously. Some medication reports used relatively low doses and short treatment durations (although what constitutes an adequate therapeutic trial for ORS is not known). Psychotherapy reports often did not specify details of the intervention or the number and duration of sessions. It is not known whether adding a cognitive component to behavioral therapy enhances efficacy, and the combination of psychotherapy and medication has not been studied systematically. More methodologically rigorous treatment studies are needed.

Because of space limitations, we cite representative case reports in the following section of this treatment review, rather than all of the cases found in our literature search.

Antidepressants. Although most ORS patients are delusional, serotonin reuptake inhibitor (SRI) monotherapy has been reported to be efficacious in 10 of 15 cases (67%). Most of these patients received clomipramine.¹⁸ In reports of non-SRI antidepressants, 6 of 15 cases (43%) responded. Some patients’ symptoms responded to an antidepressant after failing to respond to antipsychotic treatment.¹⁹

Antipsychotics. Pimozide is the most studied medication for ORS, with 15 of 31 cases (48%) responding.^{2,20} In a series of 12 patients, pimozide responders received 2 to 4 mg/d, except for one patient who needed 6 mg/d.²¹ Patients usually responded within 1 to 4 weeks (an average time to response was not reported). In 2 of these cases, ORS symptoms recurred after pimozide was discontinued and then remitted again after it was restarted.²¹ In another report,² 7 of 14 patients (50%) responded to pimozide.

Clinicians using other first-generation antipsychotics (trifluoperazine, thioridazine, and chlorpromazine) reported a positive response in only 2 of 19 cases (11%).^{12,22}

Combination therapy. Ten of 17 cases (59%) of ORS responded to combined treatment with an antidepressant and an antipsychotic.^{2,12}

Table 2

Working diagnostic criteria for olfactory reference syndrome

- A. Persistent false belief that one emits a malodorous smell; this belief may encompass a range of insight and does not have to be delusional
- B. The belief is time-consuming and preoccupies the individual for at least 1 hour per day
- C. The belief causes clinically significant distress or results in significant impairment in social, occupational, or other important areas of functioning
- D. The belief is not better accounted for by another mental disorder or a general medical condition

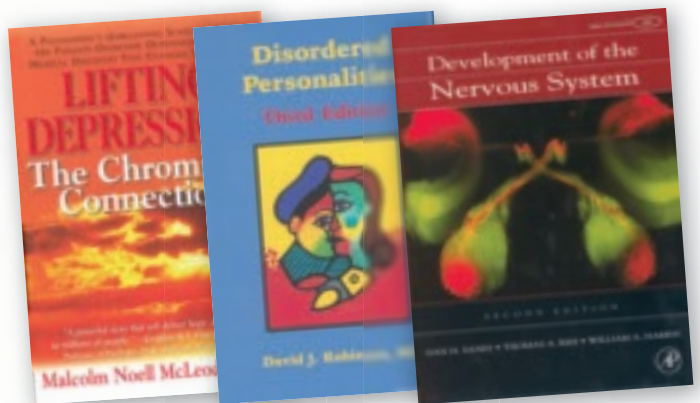
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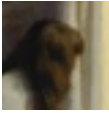


Table 3

Diagnosing ORS: Suggested questions for patient interview

- **Do you have concerns** about the way you smell (your body odor)?
- **Do you believe** that other people think you smell bad?
- **How much time** do you spend each day thinking about your body odor?
- **Does your concern** about how you smell upset you a lot?
- **Does your concern** about the way you smell interfere with daily activities, such as your job, relationships, school work, or socializing? (Ask the patient about multiple and specific areas of functioning.)
- **Are there situations** that you avoid (or wish you could avoid) because of the way you think you smell?

Other somatic treatments. Several reports found benzodiazepine monotherapy lacked efficacy, as was the case for electroconvulsive therapy.^{12,15} One report noted an unsuccessful outcome with leucotomy and a partial response with bilateral partial division of the thalamo-frontal tract.¹⁵

ORS is a distressing delusional disorder of imagined body odor that probably is underdiagnosed. Asking targeted questions can help make the diagnosis. Serotonergic antidepressants, antipsychotics, and combination therapies can help, as can some behavioral interventions.

BottomLine

Psychosocial treatment. All reports of psychosocial therapies are single cases or small series, and none used a control intervention.^{2,7,14}

Behavioral treatment has been efficacious, although patients require months to years to habituate. Several reports totalling 14 patients describe behavioral treatment over weeks to months.^{7,23} These treatments involved exposure to avoided social situations and response prevention, which consisted of refraining from repetitive or camouflaging behaviors such as showering, visits to the toilet, or deodorant use. Gomez-Perez and colleagues²³ noted that exposure therapy was less effective for ORS than for social phobia or OCD.

One report described a patient with flatulence concerns who responded to a paradoxical intention consisting of instructions to emit gas as soon as it was experienced; at 1-year follow-up, her symptoms had not recurred.²⁴

Psychodynamic interventions show no benefit for ORS symptoms.

TREATMENT SUMMARY

Ms. A became increasingly despondent and depressed. She eventually sought the help of her family doctor, who referred her to a psychiatrist. With a combination of a serotonergic antidepressant (escitalopram, 40 mg/d), a low-dose atypical antipsychotic (quetiapine, 50 mg at night), and cognitive-behavioral therapy, she started to re-engage in daily activities. During 6 months of treatment, the intensity of her belief about having body odor abated.

Limited data support the use of SRI monotherapy or an SRI plus an antipsychotic. Using SRI monotherapy for delusional patients may sound counterintuitive, but this approach appears efficacious for patients with delusional body dysmorphic disorder, which has similarities to ORS.^{17,25,26}

Clinically, we have found the use of atypical antipsychotics as an adjunct to SRIs to be helpful,

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although this strategy has not been subjected to clinical trials. Pimozide alone or in combination with an antidepressant also appears promising, as does exposure and response prevention. Do not combine pimozide with clomipramine because of the risk of cardiac toxicity.

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DRUG BRAND NAMES

Chlorpromazine • Thorazine
Clomipramine • Anafranil
Escitalopram • Lexapro
Pimozide • Orap
Quetiapine • Seroquel
Thioridazine • Mellaril
Trifluoperazine • Stelazine

DISCLOSURE

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