

JAMA Psychiatry Clinical Challenge

A Case of Severe Intractable Contamination-Based Obsessive-Compulsive Disorder

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A middle-aged woman was referred to an outpatient mental health clinic for symptoms of obsessive-compulsive disorder (OCD) following a recent hospitalization. Her OCD symptoms consisted of concerns about dirt or germs and fears that she or others would get sick because of spreading these contaminants. She had extensive rituals involving washing her hands repeatedly and cleaning household items. She reported, "I wash everything anyone else touches...I hardly let anyone into our home, and if I do, I wash down furniture and often have to wash the floors." She avoided handling groceries, mail, and money and would not visit with family members owing to concerns that they were contaminated.

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She had experienced OCD symptoms since age 10 years but did not formally receive a diagnosis until 10 years later. Treatment with selective serotonin reuptake inhibitors (SSRIs) resulted in little benefit even at maximum doses (eg, 400 mg of fluvoxamine daily, 200 mg of sertraline daily). A trial of clomipramine up to 250 mg daily also failed to reduce her OCD symptoms. Augmentation trials of antipsychotic medications, including risperidone, olanzapine, and aripiprazole, were either ineffective or intolerable.

In addition to OCD, she experienced periods of depression but denied any history of mania, psychosis, trauma, or substance abuse. She reported mild hoarding symptoms but denied symptoms of body dysmorphic disorder, trichotillomania, excoriation disorder, or an eating disorder. She reported a history of motor and phonic tics including eye blinking and blurring out words. Her medical history included hypothyroidism managed with thyroid hormone supplementation and fibromyalgia.

WHAT WOULD YOU DO NEXT?

- A. Referral for transcranial magnetic stimulation
- B. Referral for outpatient exposure and response prevention therapy
- C. Referral for deep brain stimulation
- D. Pharmacotherapy with memantine augmentation of SSRI

Diagnosis

Medication-refractory OCD requiring exposure and response prevention therapy

What to Do Next

- B. Referral for outpatient exposure and response prevention therapy

Discussion

Exposure and response prevention therapy (ERP) is the most efficacious psychological treatment for OCD, with nearly 70% of patients who complete treatment attaining clinically significant improvement.¹ Treatment entails repeated and prolonged confrontation with feared stimuli (ie, exposure) without attempting to reduce distress by withdrawing from the situation or performing compulsive rituals (ie, response prevention, as discussed in a Review published in this issue of *JAMA Psychiatry*²). Randomized clinical trials indicate that ERP is (1) more effective than credible control interventions (eg, relaxation),¹ (2) superior to monotherapy with clomipramine,³ and (3) superior to risperidone augmentation of an SSRI or clomipramine.⁴ Owing to potential adverse effects with SSRIs, practice guidelines recommend ERP as the first-line treatment for mild, uncomplicated OCD.⁵ However, because ERP is challenging, approximately 19% of patients with access to ERP refuse treatment or drop out prematurely.⁶

While serotonergic medications have been the primary pharmacologic treatment for patients with OCD, evidence suggests that

glutamatergic abnormalities may play a role in OCD⁷ (as discussed further by Dougherty et al²). Consequently, glutamate-modulating medications, such as memantine, riluzole, and the supplement *N*-acetylcysteine, have been investigated as potential OCD treatments generally to augment an SSRI or clomipramine. Data from these trials are inconsistent, but these interventions may benefit a subset of patients with OCD. The preliminary nature of these findings relegates these medications to third-line treatments behind conventional psychotherapeutic and psychopharmacologic approaches.

For the small fraction of patients who have persistent, impairing OCD symptoms after evidence-based medical and psychological treatment, it may be reasonable to consider brain stimulation and/or surgical approaches that directly modulate the corticostriatal circuits believed to underlie OCD.² Growing evidence suggests a potential role for transcranial magnetic stimulation in the treatment of OCD when applied to these brain circuits.⁸ However, the modest sample sizes of recent studies limits definitive conclusions about efficacy and the optimal cortical targets for OCD. More investigation is needed before transcranial magnetic stimulation can be considered a standard OCD treatment.

Patients with severe, treatment-refractory OCD may be helped by invasive surgical treatments such as capsulotomy and cingulotomy, both of which have response rates of 50% to 70% with minimal long-term cognitive adverse effects.⁹ Gamma knife radiosurgery has been used to replicate open capsulotomy with comparable results.⁹ Deep brain stimulation (DBS), the newest neurosurgical treatment for OCD, applies

high-frequency electrical pulses to the white matter of the ventral internal capsule/ventral striatum at a site very close to the capsulotomy target.¹⁰ On the basis of open-label data, DBS is currently available for management of OCD under a Humanitarian Device Exemption from the Food and Drug Administration.⁹

Patient Outcome

The patient received approximately 45 weekly ERP sessions but was unable to maintain benefits outside of ERP meetings. She was subsequently referred to a specialized intensive residential treatment program for OCD where she received ERP for 2 to 3 hours daily along with medication and group treatments. After 2 months, her score on the Yale-Brown Obsessive Compulsive Scale

dropped from 29 to 13. However, without the intensive coaching provided by the intensive residential treatment program, her symptoms began to worsen shortly after discharge.

After careful consideration, a referral for DBS was initiated. After a thorough clinical assessment and review of her treatment history, she was approved for DBS surgery and underwent successful implantation of bilateral DBS electrodes targeting the ventral internal capsule/ventral striatum site. Two years after surgery, she was getting out more, was willing to hug and shake hands with loved ones she had avoided in the past, and was performing fewer decontamination rituals—improvements reflected in a 13-point drop in her Yale-Brown Obsessive Compulsive Scale score. Moreover, she had restarted outpatient ERP and was making good progress.

ARTICLE INFORMATION

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