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Letter to the Editor / Editöre Mektup

Psychosurgery and Other Invasive Approaches in Treatment-Refractory Obsessive-Compulsive Disorder: a Brief Overview Through a Case

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Dear Editor,

As is well known, obsessive-compulsive disorder (OCD) is characterized by two core symptoms: obsessions (unwanted and intrusive thoughts that are not considered as real-life concerns) and compulsions (repetitive behaviors – sometimes called "rituals" – that the individual becomes motivated to perform in response to obsessive thoughts) (1). Symptom trajectories and clinical courses of OCD vary widely. Nevertheless, it is well recognized that complete remission is an uncommon outcome in the course of OCD (2). The disorder typically develops with flare-ups and downturns. This continuous pattern of waxing and waning leads to a substantially diminished quality of life and an increased burden on the caregiver. Treatment algorithms for the disorder are well-defined; however, OCD is one of the most challenging psychiatric entities to manage. Selective serotonin re-uptake inhibitors (SSRIs) and clomipramine are recognized as first- and second-line psychopharmacological agents, respectively, according to cumulative data from randomized controlled trials. Addition of cognitive behavioral interventions or atypical antipsychotics are commonly chosen for augmentation (1). Sufficient improvement in OCD-specific scale scores could not be achieved in 30 to 40% OCD patients despite using appropriate treatment strategies (3). The terms "treatment-resistant" and "treatment-refractory" are commonly

used for patients with a severe prognosis and inadequate response to the OCD treatment. Despite the absence of designated criteria, "resistance" mostly refers to at least two unsuccessful attempts with different serotonin re-uptake inhibitors (including clomipramine), while "refractory" denotes greater non-responsiveness even with augmentation. "Treatment-refractory" OCD patients are considered as candidates for more invasive alternatives such as electroconvulsive therapy (ECT), transcranial magnetic resonance (TMS), deep brain stimulation (DBS), and psychosurgery (2).

Our patient was a 42-year-old man admitted to our outpatient clinic. He had a 14-year history of OCD that had been confirmed as treatment-refractory. His initial complaints were persisting sexual thoughts about his elder sister and her husband and intensive fear of his mother dying. There was no specifically documented compulsive behavior at that time. After first being diagnosed with OCD, multiple regimens of SSRIs (paroxetine, fluoxetine) and clomipramine had been tried over 7 years. Treatment did not achieve any visible improvement during those years; moreover, various obsessions such as about contamination/cleaning and symmetry/ordering had been added. Excessive hand-washing and extended duration of eating due to nonsense rituals became apparent as compulsions. His functionality rapidly deteriorated. Risperidone, haloperidol, and cognitive behavioral therapy were introduced as augmentation 6 years ago and the severe course of his condition partially improved for a few months. However, his symptoms began to get worse due to familial stressors. Nine sessions of ECT were also administered, but no visible improvement was achieved. The patient was offered a referral to neurosurgery for psychosurgery; however, he did not consent to undergoing surgery and was thus discharged with SSRI-combined antipsychotic medication. In his current psychiatric interview, obsessions and compulsions still existed with a slight improvement of functionality. He was offered a referral for psychosurgery again, yet again did not give consent for a surgical procedure. It was planned for him to be followed up with risperidone 3mg daily and clomipramine 300mg daily.

Somatic and invasive techniques are well known interventions for pharmacological non-responsiveness of OCD over many years. ECT and TMS were performed in a number of studies regarding refractory OCD treatment, but accurate data on the efficacy and safety in these studies were limited. Those techniques were reported to be rather useful in the presence of psychiatric comorbidities (major depressive disorder, bipolar disorder etc.) with OCD (4). Psychosurgical approaches in refractory OCD can be divided into two procedures: destructive (lesioning) and non-destructive (neuromodulation/DBS). Both strategies aim to utilize specific neuroanatomical structures on which we have strong scientific arguments regarding their associations with severe prognosis of OCD (5). The cortico-striato-pallido-thalamo-cortical loop, circuit of Papez, and the basolateral circuit are the three main neural circuitries whose roles in the pathogenesis of OCD have been recognized; therefore, the aforementioned invasive interventions target structures of these networks (5). Conventional psychosurgery (lesioning) in psychiatric disorders was introduced in the fourth decade of the 20th century with prefrontal leucotomy by Moniz (6); however, it has not attained mainstream acceptance to date. The anterior cingulate gyrus and the anterior limb of the internal capsule were the main targets for surgical lesioning in the treatment of refractory OCD. In terms of efficacy, encouraging results were reported in studies of destructive surgery in refractory OCD; however, besides surgical mortality, one-fifth of the patients developed serious complications including chronic seizures, hemorrhage, stroke, infections, and emergence of other mental disorders such as severe depression and schizophrenia (7). Because of unfavorable outcomes of conventional surgery, DBS has generated new interest as a non-destructive and reversible neuromodulatory technique. The major locations that have been targeted by DBS are the anterior limb of the internal capsule and the nucleus accumbens (5). Small groups of patients have been studied with DBS in refractory OCD, but assertive clinical outcomes and a narrow spectrum of adverse effects were reported according to cumulative data. DBS benefits about 50% of patients with refractory

OCD (8). As far as the relevant literature suggests, DBS is superior to conventional surgical approaches. Serious hazards of unresponsiveness to standard therapies include severe ongoing loss of psychosocial and occupational functioning and the significant risk of suicide (5). Therefore, invasive techniques such as DBS should be considered reasonably and immediately. Nevertheless, DBS ought to be considered as an adjunct to, rather than a substitution of, pharmacological and psychological strategies.

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