

Obsessive-Compulsive Disorder After Right Temporal-Lobe Hemorrhage

To the Editor: Obsessive-compulsive disorder (OCD) is a psychiatric illness characterized by persistent, intrusive, and senseless thoughts (obsessions) and urges to perform repetitive behaviors (compulsions) that interfere with functioning and/or cause distress. Although OCD secondary to various neurological lesions has been described, cerebral hemorrhage has rarely been associated with OCD. We present the first reported patient; this was a 40-year-old woman who developed OCD that responded successfully to high-dose selective serotonin reuptake inhibitor (SSRI) treatment after right temporal-lobe hemorrhage.

Case Report

"Mrs. X" was a 40-year-old woman with a medical history significant for frontoparietal hematoma resection during infancy, centroparietal epilepsy (stable on Depakote and levetiracetam), and depression, who presented to psychiatric clinic for gradually worsening obsessions and compulsion to shop (of 7 months' duration), with onset after right temporal-lobe hemorrhage (confirmed by brain imaging). Her depression, previously well controlled on citalopram 20 mg/day, had worsened to a moderately severe depression (Patient Health Questionnaire-9/PHQ-9 Score: 15), and her mild obsessive traits had worsened to distressing obsessions and compulsions to shop, meeting

DSM-IV criteria for diagnosis of OCD. The compulsive shopping significantly reduced her anxiety. Other potential causes of her presentation, including worsening of seizure disorder, psychotic disorder, impulse-control disorder, mania, and substance abuse were ruled out. Although a citalopram dose increase to 40 mg daily led to remission of her depression (PHQ-9 score: 3), she continued to endorse compulsions to shop, to the extent that she ended up calling a realtor to buy a house. A gradual increase in citalopram dosage to 80 mg/day led to a 90% improvement in her OCD symptoms, and a further increase, to 100 mg/day, resulted in complete remission at 1-year follow-up. She had regular follow-up with her neurologist in the interim, with no suggestion of worsening of her seizure disorder by high-dose citalopram.

Discussion

OCD has been associated with various neurological lesions, including traumatic brain injury, tumors, and infarcts, localized mainly to the frontal cortex and basal ganglia.¹ The association of OCD with temporal-lobe epilepsy (TLE) seems strong, as 10%–20% of TLE patients suffer from OCD.² Our case suggests temporal-lobe hemorrhage as a novel putative cause of OCD. Although there is no known overt locus of neuronal degeneration in OCD, functional-imaging studies suggest an abnormal metabolic activity in orbitofrontal cortex (OFC), anterior cingulate/caudal medial prefrontal cortex, and caudate nucleus.³ The OFC–subcortical circuit, referred to as the "OCD

circuit," projects from OFC to the ventral portion of caudate nucleus. OFC receives both afferent and efferent projections from the temporal lobe,⁴ which may underlie temporal lobe involvement in causation of OCD. Our patient's response to high-dose SSRI is plausible, considering the fact that serotonin acts on the "OCD circuit" by modulating 5HT3 receptors predominantly present in ventral striatum.⁵ Besides highlighting a novel mechanism of causation of OCD, we suggest that OCD associated with temporal lobe hemorrhage may be responsive to high-dose SSRI treatment.

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