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# SUCCESSFUL TREATMENT OF OBSESSIVE-COMPULSIVE DISORDER WITH ELECTROCONVULSIVE THERAPY

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*Abstract*: Two men with obsessive-compulsive disorder showed abnormal behaviors including agitation and aggression without evidence of depression. They responded to electroconvulsive therapy (ECT) following failure of drug treatments. Further investigation of the utility of ECT in treating drug refractory obsessive-compulsive disorder is indicated.

**Index Terms**

electroconvulsive therapy, obsessive-compulsive disorder

We reported a survey of the electroconvulsive therapy (ECT) experiences at Nara Medical University Hospital in which a favorable therapeutic response to ECT was observed in 69% of patients with major depression and in 70% of patients with anxiety disorders[1]. Scant literature exists concerning the effects of ECT alone on obsessive-compulsive disorder (OCD)[2]. Several studies have suggested either a favorable effect or no effect in treating the disorder. However, in almost all of these studies the diagnosis was vague, methods were incompletely described, and outcomes were unclear.

Fink, in his textbook on ECT[3], stated that, regarding OCD, "Such patients usually do badly." Five excellent textbooks of ECT[4,5,6,7,8] failed to mention OCD as even a minor indication for the use of this treatment modality.

Walter et al[9] assessed the combined effects of ECT, modified narcosis, and antidepressants on "obsessional neurosis." Forty percent of their patients improved following combined treatment, but the criteria for the diagnosis of "obsessional neurosis" were unclear. In addition, the relative effect of each from of treatment was obscure. Grimshaw[10] studied 100 patients with obsessional disorder. However, he also did not define criteria for the diagnosis, nor did he explain the method of ECT administration. His study, which concluded that ECT has little effect on obsessional disorder, would thus be difficult to replicate.

In a recent research report on ECT in OCD, Khanna et al[11] noted transient improvements in OCD and concluded that ECT might have specific "antiobsessional properties." From the review of the experience with ECT in 32 patients meeting DSM-IIIR criteria for OCD, Maletzky et al[12] stated that ECT appeared to an effective treatment for some patients with OCD.

The recent literature suggests a possible biological connection between obsessive-compulsive disorder and depression. Insel et al[13] reported finding similar sleep EEG abnormalities,including shortened REM latency, in age-matched patients with obsessive-compulsive disorder and in depressed patients. Patients with obsessive-compulsive disorder also had a rate of abnormal

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results on dexamethasone suppression tests comparable to that found in endogenously depressed patients[14]. Clomipramine[15], a tricyclic antidepressant, fluoxetine[16] and fluvoxamine[17], selective serotonin reuptake inhibitors, are effective in the treatment of both depression and obsessive-compulsive disorder. Obsessive-compulsive disorder may be a variant of affective disorder that is highly risistant to treatment.

The following case reports illustrate why the possible use of ECT in treating this condition should be examined.

## CASE REPORTE

Case 1

Mr. A, a 27-year-old unemployed male, was admitted to our psychiatric service for treatment of his obsessive-compulsive disorder. He had a family history of his mother's depression and an uncle's alcoholism.

After graduating from high school, he worked for a rubber factory and left in a year complaining of throat pain. Then he became phobic against tonsillitis and was compelled to wash his hands and rinse his mouth repeatedly. At the age of 22, he felt the impulse, whenever he saw an umbrella, to pick it up and stab someone's body. At the age of 24, he was so sensitive to the noise from his neighbor that he suffered from insomnia. He complained about the noise to the neighbor, believing that the neighbor intentionally made the noise to annoy him. He was always irritable and anxious about people's eyes, and he was sometimes aggsessive to someone complaining that he had stared the patient down. At the age of 26, he could not drive a car because he had the need to check and recheck endlessly in orderto assure himself that he had not met with any traffic accident. He consulted our outpatient clinic and received anxiolytic drugs, but he did not take the medicine since he was afraid of the side effects of drugs. His sleep was prevented by a compulsive enumeration of the doings of the day, hypochondrical preoccupations, and compulsive pondering of other's eyes and noises. He was exhausted by daily activities and wanted to be admitted to our ward.

On admission, Mr. A appeared well-groomed but fatigued and irritable. Althouhg he suffered from reference of idea with poor insight, he showed no evidence of delusions, hallucinations, or thought disorder. His denial of any depression or sadness was corroborated by family members. There were no vegetative signs except difficulty falling and remaining asleep, which he attributed to his obsessions. The DSM-IV criteria for obsessive-compulsive disorder were fulfilled. Loss of appetite or weight, anhedonia, diurnal mood fluctuation, and psychomotor retardation all were absent. a physical examination showed no abnormalities except for excoriation or erosion of hands and pharynx. Results of lab tests, including routine chemistries, CBC with differential, $T_4$, $T_3$, thyroidstimulating hormone (TSH) test, urinalysis, ECG, EEG, chest X-ray,and head CT were normal.

He was placed on clomipramine 75 mg/day, bromazepam 30 mg/day, and mexazolam 6 mg /day for two months, which had no effect on his symptoms. He woke up at 4 o'clock every morning to rinse his mouth for two hours. He had to check and recheck that his locker was locked and to reassure himself by a repetitive and endless turning over of ruminations of an irrelevant kind of conversation with his doctor the day before. Clothes when removed were carefully folded, put away in assined places in a certain order. Books and papers, pictures and

articles of furniture had to be kept to a special position. He flew into a rage with the other patient if he put his things in Mr. A's space. Bromazepam 60 mg/day and mexazolam 12 mg /day were administered for two months, which had no effect on his obsessive-compulsive symptoms.

The medication was discontinued. After getting informed consent from him and his father, a trial of ECT was attempted. Mr. A underwent a total of 10 bilateral ECTs spaced every 2 to 3 days. The method of ECT is described elsewhere[1].

Dramatic improvement occurred after the treatment, when there was a near-total remission of obsession. He had total resolution of his ruminations and showed no compulsive behavior. But he was anxiout about and in fear of something. His anxiety and fear disappeared with 4.5 mg/day of haloperidol and 15 mg/day of bromazepam. He became mild and calm and demonstrated anhedonia but no psychosis. After discharge from the hospital, he lived alone but did not return to work. One year later he remained free of obsessions and compulsive behaviors.

Case 2

Mr. B, a 34-year-old male, was referred to our outpatient clinic of psychiatric service of his severe obsessive-compulsive disorder. After graduating from junior high school he worked for an automobile equipment factory as he went to a part-time system high school. He was married at the age of 19 and fathered 3 children. He had no family history of mental disorder.

At the age of 16, he began to exhibit compulsive behaviors, i. e., hand washing, ordering, checking. At the age of 18, he suffered from repeated doubts, such as wondering whether he had hurt someone in a traffic accident, and became unable to drive a car and unable to work at last at the age of 20. At the age of 31, he suffered from the obsessive idea, or the repeated doubt that his wife had a secret love affair with someone behind him. He was plagued by this doubt and attempted to neutralize it by repeatedly checking her behavior, keeping track of her, and keeping her indoors away from anyone. He could not fall asleep until his wife had slept. Since this situation continued, he consulted our outpatient clinic with his wife an the age of 34.

At the initial interview, his memory was intact, however, his concentration was clearly impaired by his obsession. He appeared worried, fatigued and irritable. He showed no evidence of schizophrenia or affective disorder. On examination, no physical or laboratory findings were identified. We treated him with haloperidol 1.5-6 mg/day, sulpiride 150-300 mg/day, carbamazepine 200-400 mg/day, trazodone 25-50 mg/day, thioridazine 25-50 mg/day, or ethyl loflazepate 1-2 mg/day with no effect but akathisia and other side effects. Administration of each combination had no improvement. During this course of psychopharmacotherapy for 11 months, he showed compulsive checking behavirs, could not go to the bathroom, and sometimes quarreled with his wife and spanked his wife. Moreover he was terribly frightened of someone's voice or sound. After getting informed consent from him and his wife, a trial ECT was attempted in the same way as Case 1.

The most dramatic improvement occurred after the third treatment, when he did not show his compulsive behaviors against his wife. By the eighth treatment Mr. B had almost total resolution of his obsession except for his phobia of driving a car. At a 16-month follow-up, he remained in the same state but the obsessions were lacking in emotional force and no longer

dominated him. He received behavior therapy of exposure plus response prevention and medication of bromazepam 10 mg/day and trazodone 25 mg/day.

## DISCUSSION

Refractory OCD is a disabling condition. The patients described here were paralyzed by their illness. Since most OCD patients who undergo psychosurgery have very severe illness that has not responded to multiple therapeutic approaches, the results of surgical intervention are impsessive. The scarcity of published reports is surprising in view of the fact that nearly 50,000 patients in North America alone have undergone various forms of psychosurgery[18]. As such patients appear to be not unusual in clinical practice despite recent advances in behavioral and medical treatment, any potentially effective and safe treatment approach should be evaluated for this disorder.

Mellman and Gorman[2] reported a paient who had appeared not to have major depression who improved with a course of ECT after not responding to a number of antidepressants. Their report claimed that the patient had suffered from an underlying treatment resistant depression and not primary OCD ; the illness began after the death of his wife and at no time had he had any compulsion[18]. The cases reported here were of typical OCD which began in adolescence or early adulthood. The favorable response to ECT in these patients suggests its utility in treating OCD, especially in patients refractory to drug treatment. Behavioral treatments of OCD have been found to be highly effective but appear much more successful in alleviating compulsions than in stopping obsessions[19]. In patients with severe symptoms or poor insight, it is unlikely that behavioral therapy will be of help until these symptoms are well comtrolled with somatic treatment such as pharmacotherapy or ECT.

This report does little to resolve the question of whether, and how, OCD is related to depression. Case 1 had family history of depression and alcoholism, while case 2 had no family history. Meletzky et al[12] reported their experience that patients with depression and OCD were quite likely to improve in both areas with ECT. Additional studies are indicated using ECT to treat nondepressed patients with OCD in order to assess fully the potential reversibility of this disorder.

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