

Electroconvulsive Therapy in Treatment Resistant Obsessive-Compulsive Disorder: A Case Report

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Received: 30 Sep 2023; Accepted: 03 Nov 2023; Published: 10 Nov 2023

Citation: Lee Chin Tee, Yee Chin Chai, Nithya Nagalingam. Electroconvulsive Therapy in Treatment Resistant Obsessive-Compulsive Disorder: A Case Report. Int J Psychiatr Res 2023; 6(6): 1-3.

ABSTRACT

Obsessive-compulsive disorder (OCD) is characterized by the presence of obsessions, compulsions, or both, which is time consuming and causes significant functional impairment. The treatment options for obsessive-compulsive disorder include medication and psychological therapy. Electroconvulsive therapy (ECT) stands as an effective treatment for severe and treatment-resistant psychiatric conditions. However, there is still insufficient evidence regarding the efficacy of ECT in OCD. We intend to report a case of a middle-aged woman who suffered from severe and refractory OCD who showed promising response following her ECT. Patient showed symptoms of relapse one month after the completion of ECT which led to the re-initiation of another acute series of ECT. Despite achieving improvement in symptoms, the patient experienced a distressing post ECT delirium. Even though the delirium was resolved after one week, the patient was not keen to continue with ECT. ECT emerges as both a safe and effective option for severe and refractory OCD, particularly in cases where conventional treatments prove ineffective. As of yet, the exact mechanism of how ECT works is unexplained, and the value of ECT in OCD should be further investigated.

Keywords

Electroconvulsive therapy, Obsessive-compulsive disorder, Counting, Cleaning, Delirium.

Introduction

Obsessive-compulsive disorder (OCD) is a debilitating mental health condition. Obsessions frequently result in heightened feelings of anxiety or discomfort, prompting the engagement of compulsions as a response to these obsessions. According to the Diagnostic and Statistical Manual of Mental Disorders 5th edition (DSM 5), it occupies a distinct category known as obsessive-compulsive and related disorders (previously classified as an anxiety disorder [1]. This classification is defined by the presence of repetitive and persistent thoughts and/or behaviors that are both time-consuming and responsible for considerable functional impairment [1].

Research utilizing a factor-analytic approach consistently lends support to either a four-factor or five-factor model delineating

OCD. Typically, the symptoms of OCD manifest in five distinct dimensions, namely 'contamination', 'harmful thoughts', a 'forbidden thoughts', 'symmetry', and 'hoarding' [2,3]. Although there are considerable evidence supporting the efficacy of initial treatments for OCD, a significant number of individuals do not exhibit adequate responses. Electroconvulsive therapy (ECT) stands as an unquestionably effective treatment for a number of severe and treatment-resistant psychiatric conditions. However, the range of problems that ECT could potentially address does not encompass OCD. Herein, we would like to describe about a patient afflicted with refractory OCD who was prescribed ECT. The patient exhibited remarkable clinical and functional improvements, shedding light on the need for further investigation into such therapeutic strategies for this particular group of individuals.

Case Report

This is a 60-year-old housewife who has grappled with the intrusive thought and ritual of repetitive counting and cleaning for over 30 years. She has been diagnosed with severe OCD. For

the past two decades, she has been under psychiatric treatment and was prescribed various medications from different classes at optimal doses. Despite her compliance with treatment, she has never experienced a state of wellness or full functionality. The medications she had tried before include fluvoxamine, mirtazapine, sulpiride, quetiapine, clozapine, clomipramine, amitriptyline, haloperidol, and intramuscular flupenthixol decanoate.

The patient sought a second opinion from our centre due to a worsening of her depressive symptoms along with her obsessive-compulsive symptoms during the COVID-19 era, marked by the emergence of repetitive counting behaviors involving specific words—repeated at least 20 times daily. Those particular words seemed to surface randomly in her conversations or interactions with others. The associated thoughts attached to those words or phrases induced discomfort, prompting her to alleviate her uneasy feeling by tapping her fingers onto her palms or in finger counting while counting those words spoken. This ritual would persist until her palms turned red. While she occasionally managed to divert her attention through conversations or singing but she would get the obsessive thoughts shortly after that, leading to repetition of the ritual all over again. This ritualistic behavior severely disrupted her daily functioning; she would halt her household tasks midway to engage in the ritual whenever the troubling words surfaced.

Apart from counting, an intense preoccupation with cleanliness also manifested. She allocated a substantial amount of time of at least an hour or more each day to showering, during which she washed her hands at least four times per session. While performing household cleaning tasks, she would meticulously mop the floor a fixed number of times, motivated by a profound fear of contamination. There was a period when her condition deteriorated to the point where she became incapacitated due to extreme distress from her obsessive thoughts and rituals, rendering her unable to even bathe for several months. The patient exhibited a tenacious personality, insisting on doing things solely her way. The pandemic lockdown exacerbated her mood, depriving her of social activities and leaving her consumed by obsessive thoughts that showed no signs of improvement. This period was marked by bouts of crying and feelings of hopelessness about her recovery prospects.

In view of her poor response to a sufficient duration of both pharmacological and psychological treatments, the consideration of electroconvulsive therapy (ECT) was discussed. Upon admission for ECT, the Yale-Brown Obsessive Compulsive Scale (Y-BOCS) [4] was administered, yielding a score of 39. Over a span of two weeks, six sessions of acute ECT were administered utilizing the bitemporal technique and suprathreshold stimulus dose. By the end of the fourth session, the patient reported improvement, with intrusive and repetitive thoughts no longer plaguing her, and she ceased the habit of hitting her hands for counting purposes. The Y-BOCS, re-administered after the sixth session, reflected a score of 9. The patient was discharged after six sessions of ECT in improved condition, with absence of both counting behaviors and excessive cleaning at home.

However, a month after the ECT, a relapse in counting rituals occurred, prompting her readmission for ECT. The Y-BOCS score before ECT stood at 28. Following the fifth session, she began displaying brief confusion regarding her whereabouts at night, leading to a computed tomography (CT) of brain. The scan revealed mild vertex atrophy, consistent with her age. Hence, the ECT was continued. After the sixth ECT session, there was noticeable improvement as she managed to decrease the frequency of mentally counting the same phrase to a maximum of three times, and she substituted the previously forceful tapping with gentle touches. The ECT was extended for another three sessions to achieve better improvement. Unfortunately, after the ninth ECT session, she experienced a bout of post-ECT delirium, characterized by confusion, restlessness and persecutory delusion. During this episode, she displayed inappropriate urination and made allegations of being transported against her will by a group of individuals to an unfamiliar location. Family was worried and keen to bring her home. Oral haloperidol 3mg/day was prescribed to her for delirium while oral aripiprazole was withheld upon discharge.

Patient was reviewed after one week in the outpatient clinic, her delirium resolved. A repeated CT brain revealed insignificant findings. The patient exhibited improvement, demonstrating reduced engagement in counting and cleaning rituals. However, the family and patient, no longer enthusiastic about further ECT, opted to conservative treatment. Notably, her medications was further altered to oral Haloperidol 1.5mg/day, sodium valproate 400mg/day, amitriptyline 75mg/day, and clomipramine 200mg/day.

Discussion

The lifetime prevalence of OCD is 2 to 3% and associated with substantial comorbidity and morbidity [5]. Among all the subtypes, counting OCD, alternatively termed arithmomania, stands out as a common manifestation within OCD. Despite its prominence, its prevalence lacks comprehensive documentation. It is notable for its pronounced fixation on numbers, driving individuals to experience a powerful compulsion to repeatedly engage in counting behaviors. The expression of counting OCD can manifest in diverse ways, encompassing thoughts, actions, or numerical patterns. Individuals afflicted with counting OCD might count with the aim of attaining a sense of correctness or positivity, rather than alleviating a feeling of incorrectness or discomfort.

In this case, she had grappled with word counting for several decades, with fluctuations that significantly impacted her life. National Institute for Health and Care Excellence (NICE) guidelines suggest that initiating treatment for OCD should involve pharmacotherapy with serotonin reuptake inhibitors (SSRIs), cognitive-behavioral therapy, or combination. Clomipramine should be considered after adequate trial of at least one SSRI has been ineffective or poorly tolerated [6]. While these findings hold promise, these treatment options do not consistently achieve efficacy for all cases, with a significant percentage of around 40 to 60% of individuals not responding positively to these interventions

[7]. Second line treatment, for example switching, combining or augmenting strategies may not provide adequate relief. Individuals who don't attain a satisfactory response and those who persist in experiencing clinically significant symptoms despite a 25 to 35% reduction are commonly identified as "treatment-resistant" [8].

When individuals are considered as "treatment-resistant", it is pertinent to consider the potential management options such as glutaminergic medications, non-invasive neuromodulation, neurosurgical approaches or ECT [9]. Of these options, ECT holds promise for treating refractory OCD. However, the documented positive responses are currently limited to case series or studies [10]. Regrettably, our patient falls into the group of individuals who have not responded well with multiple treatment trials. With the introduction of ECT, she reported significant self-improvement and a positive outcome substantiated by YBCOS scale. Although she experienced a relapse after one month, another course of ECT resulted in reported improvement. However, it is essential to note the occurrence of post-ECT delirium as a distressing side effect for this patient. Whether it is related to age or other associated risk factors warrants further study in future to justify it.

Conclusion

ECT emerges as both a safe and effective option for severe and refractory OCD, particularly in cases where conventional treatments prove ineffective. The existing evidence linking OCD and ECT remains inadequate. As of yet, the exact mechanism of how the ECT works is unexplained, and the value of ECT in OCD should be further investigated. Should our case find reinforcement through additional studies, ECT could be life changing as it can potentially ascend to the forefront as the preferred intervention for OCD, fostering an elevated quality of life.

Acknowledgement

We would like to thank the Director General of Health Malaysia for his permission to publish this article.

Financial disclosure

The authors did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

Conflict of interest

The authors report no actual or potential conflicts of interest.

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