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Short Article

Severe depression episode with an incredible improvement after electroconvulsive therapy

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Abstract

Aim: The primary aim of this article is to present a case study of a patient with severe depressive episode that was refractory to extensive pharmacological treatment, but exhibited remarkable improvement following electroconvulsive therapy (ECT).

Materials and Methods: The patient's medical records were obtained from II Department of Psychiatry and Psychiatric Rehabilitation, Medical University of Lublin. Cited literature was searched on the PubMed database using the following keywords: Major depressive disorder or MDD, Electroconvulsive therapy, and Benzodiazepine dependence.

Results and conclusions: A 55-year-old woman with recurrent depressive disorder and benzodiazepine dependence, unresponsive to multiple medications, requested an ECT. She was then treated with a cycle of 12 Seizure Electroconvulsive Therapy (SECT) sessions. Initially bedridden with severe anxiety, suicidal thoughts, and no clinical improvement despite maximal pharmacotherapy, she exhibited significant improvement after three SECT sessions. Her anxiety decreased, suicidal ideation resolved, and symptoms of anergy and anhedonia diminished. At the end of the SECT cycle, the patient's mood stabilised, and her activity level and social engagement increased. At discharge, she showed no suicidal ideation, tendencies, or psychotic symptoms.

This case demonstrates the effectiveness of ECT in treating severe, pharmacologically resistant depressive episodes. It highlights the importance of considering patient requests in conjunction with clinical assessments to achieve positive outcomes. Raising awareness about ECT's safety and efficacy among the public and mental health professionals is crucial for optimizing treatment strategies for severe depression. Proper qualification and timely administration of ECT can significantly enhance treatment outcomes beyond pharmacotherapy alone.

Keywords: major depressive disorder, electroconvulsive therapy, benzodiazepine dependence, treatment-resistant depression

1. Introduction:

Major depressive disorder is a psychiatric condition that affects approximately 4.7% of the global population and is associated with high rates of rehospitalization [1,2]. According to the American Psychiatric Association, electroconvulsive therapy (ECT) is regarded as a highly effective treatment and is suggested for patients exhibiting psychotic, catatonic, or suicidal symptoms, and for those who have not responded adequately to medication or psychotherapy. Additionally, ECT may be also considered for patients who have previously responded well to it and for those who prefer it over other treatment options [3]. ECT should also be considered as an early intervention for psychotic depression, where it has proven to be highly effective, as well as in emergency psychiatric situations, such as neuroleptic malignant syndrome or severe catatonia [4].

The primary objective of this article is to present a case study of a patient experiencing a severe depressive episode that was refractory to extensive pharmacological treatment, yet exhibited remarkable improvement following ECT.

2. Material and Methods:

The patient's medical documentation obtained from II Department of Psychiatry and Psychiatric Rehabilitation, Medical University of Lublin.

Cited literature was searched on the PubMed database with the usage of the following keywords: Major depressive disorder or MDD, Electroconvulsive therapy (ECT), and Benzodiazepine dependence.

3. Results:

The patient is a 55-year-old woman, married, with three adult children, possessing vocational education, and currently living with her family on a pension. She has been under psychiatric care for adjustment disorders since 2010, and since 2019, has been treated for mixed anxiety and depressive disorder. Over the past three years, she has experienced a decline in her mental state characterized by decreased mood and drive, anergia, reduced activity, anhedonia, periodic thoughts of resignation, and suicidal ideation without intent. In previous years, she had been taking lorazepam, estazolam, and zolpidem for an extended period, leading to benzodiazepine dependence, for which she unsystematically received outpatient and inpatient

treatment. The patient reported that she had abstained from benzodiazepines for seven months before her admission in September 2023, which was her fifth hospitalization. She was referred to the psychiatric unit by a psychiatrist with a diagnosis of recurrent depressive disorders and benzodiazepine addiction. Her other medical conditions include nicotine dependence, iatrogenic hypothyroidism (well-managed with L-thyroxine) resulting from a thyroidectomy, abdominal obesity, and metabolic-associated fatty liver disease (MAFLD). Upon admission, the patient was in a clear state of consciousness and was correctly oriented to person, place, and time. She was coherent in verbal communication but exhibited a markedly depressed mood, was tearful, and expressed significant concern about her condition. She reported a lack of desire and energy to engage in activities, sleep disturbances, and a persistently low mood. Psychomotor activity was diminished. She confirmed having suicidal thoughts without intent, scoring 9 on the Mini-International Neuropsychiatric Interview (MINI). The patient scored 12 points on the Beck Depression Inventory, indicating a mild mood disturbance. During the initial assessment, she indicated that none of her current medications were effective and suggested that electroconvulsive therapy (ECT) might be beneficial. During her hospitalization, the patient was initially bedridden, highly anxious about her health, expressing predominantly hypochondriacal concerns, and refusing to participate in any activation classes. She reported significant anxiety, required assistance from others, and exhibited nihilistic delusions. She also complained of sleep and appetite disturbances. The patient initially appeared to have organic changes due to abuse of benzodiazepine drugs, but this diagnosis was later corrected to depression. Despite pharmacological treatment with maximum daily doses of duloxetine, pregabalin, perazine, olanzapine, cariprazine, lamotrigine, valproic acid, buspirone, and quetiapine, there was no clinical improvement. Consequently, she was qualified for electroconvulsive therapy (ECT).

After three sessions of Seizure Electroconvulsive Therapy (SECT), the patient exhibited significant clinical improvement. There was a marked reduction in anxiety, and the patient no longer experienced suicidal ideation or residual depressive thoughts. Symptoms of anergy and anhedonia were notably diminished. The patient's mood stabilized, and there was a noticeable increase in activity within the ward. Sleep disturbances decreased, and appetite improved. The patient became more engaged in conversations across various topics, during which their sense of humor became apparent. After completing a cycle of 12 Seizure Electroconvulsive Therapy (SECT) treatments, the patient's improvement was sustained. On January 16, 2024, the patient scored 12 on the Beck Depression Inventory. On January 23, 2023, the patient was discharged

home in good general condition with a well-balanced mood. The patient scored 0 on the Mini-International Neuropsychiatric Interview (MINI), exhibited no suicidal thoughts or tendencies, and showed no symptoms of psychotic production. Four months following the initial week of treatments, the patient reported significant improvements. Within a month after the final treatment session, she experienced a complete resolution of her memory problems and successfully quit smoking.

4. Discussion

In 2007 Rasmussen and Lineberry described a series of cases of patients who deliberately asked for continuation of ECT therapy, despite a lack of improvement in their clinical state. Their model figure of such a patient with major depression disorder is characterized by comorbid personality disorders and a history of previous numerous medication trials and various psychotherapeutic attempts.

It is remarkable, that patients report improvement in their clinical state just after 1 st. ECT procedure, while it cannot be confirmed by clinicians [5].

Our patient differs from the patients mentioned in the paper cited above, as she was not previously treated with ECT. Her positive attitude and initiative may be surprising, considering that ECT is recognized, among people without specialized knowledge, as an unsafe and harmful procedure [6,7]. Even among patients who benefit from ECT and their families, it is often regarded as a last-resort treatment [8]. Taking that into consideration it not only seems suspicious, that the patient asked specifically for this method of treatment, but it also could undermine the positive patient's response after ECT. On the other hand, it is worth remembering, that ECT is generally an effective treatment option for patients with major depressive disorders [9]. Also, our patient did not report decent remission of the symptoms just after the first procedure, which might be the result of a pure "placebo effect", and the improvement in her mental health was noticed independently by psychiatrists [5]. There are various predictors of the effectiveness of ECT in major depression disorder. Even though it was proven effective, still even one-third of patients do not respond to ECT [10]. The analysis underlines the importance of a several drugs, duration of depression disorder, and severity of depressive episodes on the final effect of the ECT [11–14]. In the case of our patient, she could be classified into the group of patients with a long duration of the disease, with a severe depression episode and additional suicidal thoughts, who received multi- and high-dose pharmacological treatment. Most of those clinical characteristics are associated with a lower

chance of positive response to ECT. Even the high severity of the episode, which is commonly associated with rapid response to the ECT, does not correlate with long-term remission [13,14]. Despite all the negative predictive factors, our patient remained in remission after the complete therapy cycle. In a recently, published study by Antosik-Wójcińska et al., the authors investigated the widespread usage of the ECT in Polish psychiatric centers. The outcomes of it are disturbing, as they showed that usage of ECT is extremely rare with 0.13 patients per 10,000 inhabitants [15]. In the conducted surveys, the most frequently mentioned reasons for not providing ECT were organizational and funding constraints and lack of qualified personnel [15]. As evidenced by our patient case, the possibility of qualifying patients for ECT and performing this procedure might be crucial to obtain satisfactory clinical effect.

5. Conclusions

In the cited literature, it was emphasized that mental health professionals should not follow their patients' every suggestion in terms of choosing the best therapeutical method [5]. However, considering the patient's requests and combining them with objective clinical assessment may lead to unexpected positive outcomes. This case also underlines the importance of raising awareness of ECT effectiveness and safety in severe depression disorders among the general population and mental health professionals. It is a crucial task, as reasonable and supported by objective qualification process introduction of ECT allows to improve the effectiveness of treatment solely based on pharmacotherapy [3].

Disclosure:

Author's contribution:

Conceptualization: ES ; Investigation: JR, WH, PB, ES ; Resources: PB, ES ; Data curation: JR, WH, ES ; Writing – rough preparation: JR, WH, PB, ES ; Writing – review and editing: ES ; Visualization: JR, WH, PB ; Supervision: ES ; Project Administration: JR, ES

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Conflict of interest

None.

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