Case report

Electroconvulsive therapy for treatment of depressive episode in the course of bipolar affective disorder in a patient with cannabis addiction and coexisting neurological comorbidities - a case study

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SUMMARY

The article presents a comprehensive case study of a 37-year-old male patient who was admitted twice to a psychiatric clinic due to bipolar affective disorder. The first admission was prompted by a manic episode with psychotic symptoms, concurrent THC addiction, and post-traumatic neurological syndrome, while the second followed a severe depressive episode. Despite extensive pharmacological treatment and several months of psychotherapy, it was the administration of Electroconvulsive Therapy (ECT) that ultimately led to significant remission. This intervention resulted in a marked improvement in the patient's mood and regression of symptoms, enabling a brief follow-up in an outpatient setting, which the patient discontinued after three visits. Notably, the patient remained symptom-free for three years post-discharge without the use of any medications, until hypomanic symptoms reappeared. This case highlights the pivotal role of ECT in the treatment of bipolar affective disorder, particularly in cases where patients exhibit resistance to pharmacotherapy. The article aims to emphasize the importance of ECT as an equivalent treatment modality to pharmacotherapy. Despite negative associations with this method and concerns among patients and medical staff, the described case demonstrates the positive impact of ECT, especially in drug-resistant patients.

Key words: electroconvulsive therapy, bipolar affective disorder, drug-resistant patients

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Introduction

Over the course of the last decades, psychotherapy and pharmacotherapy have made great progress in the treatment of severe mental illnesses. At the same time, it is becoming increasingly clear that even when administered in perfect conditions, not all patients will respond satisfactorily to these therapies. ECT is available as a complementary therapy method [1]. Over the course of its almost 75-year history, ECT has been continuously developed through technical innovations and quality assurance measures [2]. Italian psychiatry professor Ugo Cerletti is considered one of the creators of ECT. Thanks to his research, it turned out that ECT is an effective method of treatment in patients with depressive disorders as well as with diagnosed schizophrenia [3]. ECT has appeared in psychiatry since 1940, it was relatively quickly refined to minimize possible side effects and the burden of therapy itself. In recognition of the effectiveness of this then innovative treatment method of Cerletti and his colleague Lucio Bini were nominated for the Nobel Prize in medicine, but they did not receive the award.

Generally, ECT is prescribed especially for following cases: 1) severe, life-threatening conditions, e.g. depression with suicidal and psychotic

symptoms [4] or catatonia [5]; 2) patients with contra-indications for medical treatment, e.g. old age [6], pregnancy [7] or drug intolerance [8]; 3) therapy-resistant depressive disorder [9, 10] and schizophrenia [11, 12].
Despite the fact that ECT is a proven, safe, effective and scientifically recognized method of treatment, it is sometimes overlooked and underestimated in the therapeutic procedure of patients [13]. One of the reasons for the limited use of ECT is the accompanying concerns of both the medical staff and the patients themselves [14]. They often result from stereotypical beliefs about ECT treatment, images based on films, literature or historical communications, and not reliable scientific data. The stigmatization of ECT is based on early treatments in which high doses of electricity were administered without anesthesia. ECT is safer method because patients are better prepared for medical intervention and their condition is controlled.
Although ECT may still cause some side effects, it now uses electric currents given in a controlled setting to achieve the most benefit with the fewest possible risks. Therefore, the aim of the article is to re-emphasize the importance of this method in the treatment of patients, especially drug-resistant. ECT procedures are most often performed in patients diagnosed with affective disorders, including recurrent depressive disorders, bipolar affective disorder [15]. The percentage of improvement in depression treated with ECT in the course of bipolar affective disorder reaches almost 90%. The therapeutic effect is enhanced by the simultaneous administration of drugs from the neuroleptic group. It is emphasized that the effectiveness of ECT in the course of bipolar disorders is high, and the type of depression (in the course of unipolar or bipolar disease) does not have a major impact on the effectiveness of ECT therapy. Daly, et al. [16] in a prospective study showed that faster improvements occurred in bipolar patients than in patients with unipolar depression. The case of a patient with bipolar affective disorder, described below, demonstrates that despite years of pharmacological treatment, there was no significant improvement in either the patient's functioning or the symptoms of the disorder. Ultimately, ECT administered during a severe depressive episode led to a substantial improvement in the patient's quality of life. Not only did the predominant depressive symptoms significantly diminish, but the patient also experienced an improved insight into their illness, increased motivation to pursue further rehabilitative treatment for physical disability resulting from a spinal injury, and a marked enhancement in their social interactions.

Description of the course of treatment

Anamnesis

The case report presents a patient with a diagnosis of bipolar affective disorder, admitted to the clinic for a manic episode with psychotic symptoms (F31.2), and subsequently treated for a severe depression without psychotic symptoms after a short period of remission (F.31.4). The comorbid diagnosis was cannabinoid addiction syndrome (F12.2).
The whole picture was completed by diagnoses from the area of neurological symptoms:
- Condition after lumbar spine injury 2018 - Incomplete Th12 paraplegia (S34.3; G82.2; T91.8)
- Barthel index: 40-55 points.

The case study concerns a 37-year-old single white male who was in a wheelchair. He was admitted to the clinic in the so-called "acute mode" assisted by the police and ambulance service. The patient had not previously been treated in the hospital, having been under psychiatric outpatient care for several years. At the time of admission, the diagnosis was unknown, but schizophrenia was suspected. The reason for the patient's presentation was police intervention. It turned out that the patient was throwing furniture out of the apartment through the window, behaving loudly and displaying verbal aggression, threatening passersby. During admission, the patient was conscious, but due to the patient's lack of cooperation, verbal and active aggression toward staff, and vulgar and provocative behavior, a full orientation assessment was not possible. The patient's mood was elevated and there was content of delusions of grandeur in his expressions. The patient's thinking was interrupted, and auditory or visual hallucinations could not be ruled out. In order to protect the patient, staff and other patients, it was decided to immobilize the patient.
Due to the patient's lack of cooperation, a somatic examination could only be conducted in a superficial manner, but did not reveal any significant abnormalities. Based on the available documentation, it is known that the patient has paraplegia, as he had an accident at work with a lumbar spine injury in December 2018, and has been in a wheelchair since then. He complains of unremitting back pain and urinary incontinence. Additional tests conducted for the presence of THC metabolites and tricyclic drugs in the urine indicated a positive result. A test for Sars Covid 19 virus was negative. Laboratory results from blood drawn were normal. A computed tomography (CT) scan of the lumbar LWS showed no new traumatic lesions.
During further hospitalization, the patient continued to be very tense, verbally and actively aggressive toward staff, behaved inappropriately, shortened his distance from those treating him and uttered life-threats against them. Despite his mobility disability, he tried to attack and hit staff, and destroyed equipment in the clinic's ward.

During hospitalization, the following psychiatric medications were administered in maximum daily doses of: Haloperidol up to 100 mg, Diazepam up to 75 mg, Risperidone 6 mg, Perazine 600 mg, Prothipendyl 40 mg, and Valproic acid 3000 mg. Mood stabilizers were administered under close monitoring of their blood serum levels to achieve therapeutic concentrations. For pain management, analgesics such as Metamizole, Tilidine, Naloxone, Diclofenac, Hydromorphone, Diclofenac-Natrium and Ibuprofen were used. Additionally, a proton pump inhibitor was administered as a gastroprotective agent, and sodium enoxaparin was used during periods of patient immobilization.

During the patient's stay at the clinic, multiple attempts were made to engage in psychotherapy; however, the patient refused to participate in the proposed sessions, insulted the therapist, and occasionally issued threats of physical aggression. After approximately two months of treatment, coupled with efforts to establish a therapeutic relationship, the patient's condition gradually improved. The patient accepted the prescribed treatment, became more compliant, calm, exhibited a stable mood and drive, and started demonstrating insight into their illness. The main issues reported by the patient were mobility impairment, urinary incontinence, and persistent pain. The patient was discharged from the clinic in a generally improved state, with a slightly lowered mood, but calm and cooperative. Outpatient care was recommended, along with continued use of the current medications: Hydromorphone for pain, Pantoprazole 20 mg, Valproic acid 2600 mg, Perazine 200 mg, Risperidone 6 mg, and Prothipendyl 80 mg.

After outpatient treatment lasting 4 months, the patient was referred for depressive symptoms by the attending physician to an affective disorders treatment unit. According to available data, during outpatient treatment the patient was treated without satisfactory effect with SSRIs, SNRIs, tricyclic antidepressants and Lithium.

On readmission, the patient complained of a depressed mood, lack of drive, decreased activity, withdrawal from life, and felt like he was "anesthetized". He was hygienically neglected. He complained of back and leg pain and incontinence, which put an additional burden on him. During admission, he was able to distance himself from suicidal thoughts and plans (SAD Scale). He smoked about 15 cigarettes per day, while he had not used alcohol or psychoactive substances for about eight months. Neurological examination revealed incomplete paraplegia with mild to moderate loss of strength and sensitivity of the lower extremities, standing possible, gait possible with assistance, very shaky. In addition, decreased lower extremity deep reflexes on both sides and neurological incontinence were observed. Internal medicine examination showed no abnormalities.

The psychiatric examination indicated that the patient was conscious, correctly oriented to his person, place, time and situation. In contact with the staff, he was calm and adjusted, but strongly withdrawn, displaying anxiety, sad and uninterested in contact with the examiner. The patient's mood was significantly depressed, as was his psychomotor activity and drive. The patient was characterized by "flattened" affect and slow thinking. His concentration was significantly impaired and he manifested a slower train of thought. The patient confirmed the presence of suicidal thoughts, but was able to distance himself from suicidal plans. He negated psychotic sensations, and there were no hallucinations or delusions on examination. The patient consented to admission to the ward. During his stay, an ECG was performed twice (normal results) and a general blood test, which showed no abnormalities and no drug presence.

The psychological examination yielded the following results. The Beck Depression Self-Assessment Test at admission showed a score of 33, indicating the presence of severe depressive symptoms. The SCID-5-SPQ screening questionnaire used indicated the presence of avoidant and insecure personality traits. Individual psychotherapeutic conversations focused on functional coping with the consequences of the accident and associated feelings of insufficiency and shame, and promoted attitudes of acceptance of the situation and motivation to undertake further changes. The patient additionally participated in group therapy, where, after an initial phase of withdrawal, he actively joined the group dynamic. During the course of therapy, the following topics were discussed: psychoeducation about bipolar disorder, feelings, their relationship to biographically developed internal-psychic patterns with the potential for reactivation of the "here and now," as well as the patient's internal resources.

Upon the patient's admission to the clinic, the treatment previously prescribed by the outpatient physician was initially maintained: Tapentadol 250 mg, Prothipendyl 120 mg, Risperidone 3 mg, Lithium 675 mg, and Escitalopram 20 mg. Despite the administration of these medications at appropriate doses, under serum concentration monitoring, and the implementation of psychotherapy, the patient's condition did not improve. The patient reported a depressed mood, sadness, lack of energy, and suicidal thoughts without any plans to act on them. During his stay in the ward, he was withdrawn and isolated. In the afternoons he revived slightly, and went for short walks in a wheelchair with a visiting friend. He often complained of back pain and incontinence. He also pointed out sexual problems in conversations.

He claimed that he did not feel like a "100%" man, and was ashamed of his incontinence and erectile problems. He was often negative about proposed psycho-

therapy and physiotherapy. He viewed his past and current situation negatively, and saw no future for himself. He did not accept the help of a social worker aimed at identifying a special center for further rehabilitation. The medication used for urinary incontinence (i.e. Solifenacinsuccinat) did not bring the desired effect.

Due to depressive symptoms and mood changes, it was decided to include Olanzapine 5 mg as a drug to potentiate the antidepressant effect of Escitalopram. The next drug gradually included was Bupropion (up to 300 mg per day) to further antidepressant treatment and activate the patient. At the same time, Escitalopram was gradually reduced and discontinued. After changing the previously used treatment, the patient's condition improved slightly. The patient had more drive and was also more motivated to take the recommended therapy. With the help of a physiotherapist, he was able to move several meters with the help of a balcony. However, the patient did not perceive this as a therapeutic success, but rather viewed it as a failure because he had to use the balcony and the distance he could cover was too short. In his utterances, he often focused on somatic complaints, incontinence problems and feelings of low self-worth. He judged himself to be a man of no value with no plans for the future. In doing so, he rejected all offers of social assistance and further rehabilitation.

Taking into account the previous unfavorable course of the disease and the medications used to date (SSRI, SNRI, TLP, Lithium, augmentation with a neuroleptic) and the current depressive episode, it was decided to undertake further treatment with ECT. The patient was initially very skeptical of the proposed treatment. After discussing the indications, contraindications and expectations several times, he agreed to undertake ECT treatment. In preparation for the procedure, somatic diseases preventing the procedure were ruled out.

No abnormalities were observed in the routinely conducted EEG examination. The examination was performed in wakefulness. The baseline activity is normal, dominated by an alpha rhythm with a frequency of 8-12 Hz and an amplitude of up to 50 μV, symmetrically over the occipital regions. The alpha rhythm reacts to eye opening (desynchronization response). No focal or generalized pathological discharges were observed. Photo stimulation did not induce any pathological changes.

Due to the lower risk of side effects, unilateral stimulation was selected for the procedures. Clinical experience from the clinic demonstrates that this configuration allows for more targeted stimulation of the right hemisphere, minimizing the risk of adverse effects, particularly in memory and cognitive functions. In this approach, the electrodes were placed in standard positions: the active electrode (anode) was positioned over the right frontal cortex, approximately 1-2 cm behind the right eye, above the orbital rim, while the reference electrode (cathode) was placed on the right mastoid process, behind the ear, close to the base of the skull.

The procedures were performed by a psychiatrist in the presence of an anesthesiologist under short-term general anesthesia, with muscle relaxation and respiratory support. The anesthetic protocol included Rapifen for its analgesic properties, Propofol 1% as an anesthetic agent, and Mivacron to induce muscle relaxation. The treatments were carried out using the Thymatron System IV by Somatics LLC. Ultrashort stimulation was applied in incrementally increasing doses, ranging from 40% to 110% of the standard dose, with a fixed current intensity of 800-1000 mA.

During the procedure, all criteria required for therapeutic quality and efficacy were met to ensure optimal treatment outcomes. These included both clinical and electrophysiological indicators of seizure quality, such as the duration of motor seizures, which should range from 15 to 90 seconds. According to the literature, seizures lasting less than 15 seconds may indicate insufficient stimulation, whereas excessively long seizures exceeding 90 seconds increase the risk of adverse effects, such as potential brain tissue damage. In the EEG recordings, seizures should exhibit paroxysmal activity, characterized by symmetrical spike or polyspike waves lasting at least 20 seconds, which is essential for complete therapeutic activation. Synchronization between the cerebral hemispheres, visible in EEG recordings, confirms the generalized nature of the seizure, which is critical for treatment efficacy. Additionally, physiological responses such as tachycardia, reflecting an increased heart rate, serve as natural indicators of effective brain activation during the seizure. The absence of such responses may suggest inadequate seizure induction. Equally important are appropriate levels of EEG wave amplitude, which reflect the intensity of stimulation tailored to therapeutic requirements. Amplitudes that are too low may indicate ineffective treatment, while excessively high amplitudes may lead to adverse effects. Seizure activity should conclude in a controlled manner, indicating proper regulation of stimulation and the effectiveness of the protocol used.

The induced seizures met all required quality criteria for therapeutic efficacy. The motor activity duration was appropriate, and the seizures demonstrated paroxysmal EEG activity lasting less than 30 seconds, indicating controlled and effective stimulation. The EEG recordings also showed synchronization between hemispheres and proper levels of wave amplitude, while tachycardia was observed as a physiological autonomic response to the induced seizures. These characteristics confirmed that the seizures were of sufficient intensity and therapeutic quality.

Each procedure was meticulously monitored for clinical and electrophysiological parameters, enabling real-time adjustments to optimize therapeutic outcomes. The use of ultrashort stimulation, characterized by shorter impulse durations, was a critical factor in reducing the risk of cognitive impairments often associated with traditional ECT methods. This comprehensive approach ensured both the efficacy and safety of the therapy, making it a well-tolerated and effective intervention. By maintaining high standards in seizure quality and procedural monitoring, this method highlights the potential of unilateral ECT to provide significant therapeutic benefits while minimizing adverse effects, particularly in patients with treatment-resistant conditions. A total of 12 treatments were conducted with unilateral stimulation on the right side, spaced at two sessions per week. The treatment proceeded as expected, and no side effects were observed during its course. Initially, the patient remained skeptical about the treating physician. Although he accepted the implementation of ECT, he reported that he did not perceive its effects. Similarly, the medical staff initially did not observe any signs of improvement in the symptoms previously reported by the patient. Regular conversations were conducted with the patient by both the psychotherapist and the physician. However, the patient refused to participate in regular assessments using the BDI (Beck Depression Inventory), stating it was "boring, and if something changes, I'll say so".

In the third week of treatment (after 5 full cycles), the patient's condition began to show gradual but significant improvement. Initially, improvements were observed in sleep quality, subjective appetite enhancement, and partial reduction of physical complaints (fatigue and pain). According to the patient's subjective assessment, there was also a decrease in the sense of overall exhaustion, alongside an increase in energy and a "desire to act." As the treatment progressed, the patient's mood continued to improve steadily, accompanied by a further increase in motivation to continue physical rehabilitation.

During conversations with the psychotherapist, the patient fully distanced himself from previous suicidal thoughts, smiled spontaneously, and began planning his future after discharge from the clinic. In the final week of ECT treatments, the patient was fully motivated to continue therapy and rehabilitation. During physiotherapy sessions, he joked spontaneously with the physiotherapist and requested an increase in the intensity of exercises, leading to further progress in mobility. The patient's mood became entirely stable, with a noticeable return of optimism and confidence in the future. Feelings of fatalism, fear of social interactions, and concerns about how others perceived him, including his self-image as a man, had essentially disappeared.

The therapy was supplemented with an increased dose of Bupropion to 300 mg. The patient also continued cognitive-behavioral therapy (CBT) with great commitment, participating actively in both group and individual sessions.

During his extended stay at the clinic, the patient consented to undergo specific urological evaluations to explore potential treatment options. Assisted by a social worker, he clarified his living situation and devised a comprehensive plan for ongoing rehabilitation and psychiatric care. Upon discharge, he was in overall good condition, with a tailored regimen for continued somatic rehabilitation alongside psychiatric and psychotherapeutic intervention. His depressive symptoms showed notable improvement. Opting out of further ECT maintenance treatment in favor of his planned rehabilitation, he was prescribed a detailed medication regimen including Lithium 675 mg, Bupropion 300 mg, Olanzapine 5 mg, Prothipendyl 120 mg, Solifenacin succinate 5mg, and Oxycodone 20 mg upon discharge.

In the week leading up to discharge, the patient achieved a score of 24 on the Beck Depression Inventory, a significant improvement from the admission score of 33. This reflects a clear subjective sense of progress and marks a meaningful step forward in the patient's recovery.

Post-discharge, the patient attended three scheduled outpatient visits, adhering to the medication plan established during his hospital stay. After missing his fourth appointment, he cited engagement with his rehabilitation program as the reason during a follow-up call. After a three-year hiatus from clinical contact, he voluntarily presented to the emergency department, requesting admission for escalating hypomanic symptoms. Upon evaluation, he appeared relaxed, cooperative, and in a mildly elevated mood, without any aggressive behaviors or psychotic symptoms. Notably, he arrived at the clinic independently by bicycle, prepared for admission, and reported discontinuation of his prescribed medications post-completion, opting instead for self-managed rehabilitation. His proactive approach included transitioning from wheelchair to walker use, and eventually to unassisted walking and cycling, facilitated by regular gym attendance, complete abstinence from alcohol, and a healthy diet. This regimen led to significant physical improvement, negating the need for the initially planned rehabilitation. Despite his right leg brace, necessitated by foot drop, his mobility remained largely unaffected.

The patient, now focusing on fitness and sport, ceased THC use weeks before his emergency room visit and initiated a private online channel discussing his illness and recovery journey. He credits ECT and his personal commitment to recovery as pivotal in his improvement,

humorously noting ECT's role as a crucial recovery catalyst. He sought clinic readmission upon recognizing symptoms of excessive euphoria, impulsivity, and irritability as indicative of hypomania. After consulting his social worker, he pursued appropriate treatment. On the ward, he remained composed and cooperative, engaging in home visits and consenting to Lithium therapy for mood stabilization.

Furthermore, it's noteworthy that the only persistent complaints over the past three years were related to sexual dysfunction. This aspect of his condition remained a challenge despite the overall positive trajectory of his mental and physical health recovery.

Discussion

ECT is considered one of the most effective treatments for severe mood disorders, including bipolar disorder (BD), major depressive disorder (MDD), and catatonic syndromes in the context of psychoses. In medical literature, the application and efficacy of ECT are more frequently discussed in the context of depressive disorders, especially in their severe and pharmacoresistant forms. In bipolar disorder, ECT is used for both depressive and manic episodes, but with certain differences in efficacy, indications, and therapeutic protocols [17].

In the case of depression, particularly in its severe forms, such as depression with psychotic features, suicidal risk, or pharmacological resistance, ECT is often regarded as the gold standard [18]. The efficacy of this method in reducing depressive symptoms ranges from 70% to 90%, making it one of the most effective therapeutic tools available. In bipolar disorder, ECT is applied to both depressive and manic episodes. However, it is most commonly used in treating severe depressive episodes in bipolar disorder, which are more challenging to manage with pharmacotherapy than manic episodes. Studies indicate that the efficacy of ECT in bipolar depression is comparable to that in unipolar depression, reaching 60% to 80%. In manic episodes, ECT may be particularly useful for patients resistant to standard treatment with mood stabilizers and antipsychotic medications. The mechanism of action of ECT in mania is less understood than in depression, but it is assumed to work by reducing hyperactivity in brain regions responsible for manic symptoms. Although ECT in BD shows similar efficacy to that in unipolar depression, it is less frequently used in this patient group. This discrepancy stems, among other factors, from differences in the course of the disorders and the availability of alternative treatment methods. Pharmacotherapy in BD, including normothymic drugs and antipsychotics, often provides sufficient improvement in manic episodes, reducing the need for ECT.

Furthermore, while unipolar depression tends to follow a chronic course, BD is characterized by cyclicality, which may influence the choice of therapy. ECT in BD is often reserved for severe, life-threatening depressive episodes, mixed episodes, or manic states in which pharmacotherapy fails [19]. One of the main challenges in using ECT for BD is the potential risk of switching from a depressive episode to mania, which is less commonly observed in unipolar depression. Therefore, strict clinical monitoring and the optimization of treatment protocols are essential. Additionally, the development of brain stimulation techniques, such as repetitive transcranial magnetic stimulation (rTMS) or deep brain stimulation (DBS), opens new possibilities for treating patients with BD. However, ECT remains a key tool for managing the most severe cases.

When discussing the efficacy and application of ECT, it is essential to emphasize its relatively rapid action on disease symptoms [20]. Very often, the first signs of improvement appear after just 5-6 treatment cycles. It is postulated that the mechanism of ECT, which involves the modulation of neurotransmitters and neuronal plasticity, allows for the rapid alleviation of symptoms, which is particularly important in life-threatening situations. This is also reflected in the case described by the authors. A patient with a depressive episode in the course of bipolar disorder and pharmacoresistance responded relatively quickly to ECT, with improvements observed after just five cycles. Consistent with the literature, the improvement initially occurred in somatic symptoms (sleep, pain, fatigue, appetite), followed by increased psychomotor activity and a willingness to engage in activities (e.g., physiotherapy), and, finally, in mood.

Despite its high efficacy, ECT remains associated with some risks, such as transient memory loss or cognitive impairments. Furthermore, given the negative associations and stereotypes surrounding ECT, convincing a patient, particularly one in a depressive phase, to undergo this type of treatment is sometimes very difficult, if not impossible. Such situations can provoke significant frustration, doubt, and even anger among the treating team. Balancing respect for the patient's autonomy in choosing therapy with an understanding of their suffering, alongside their resistance to a well-established and effective treatment, is challenging for the therapeutic team. A helpful approach in such situations is team supervision to alleviate emotional burdens and, most importantly, working to build trust and a strong therapeutic relationship with the patient. Such a situation also occurred in the described case.

The patient, previously known to the clinic from a manic episode, was readmitted due to a depressive episode. Long-term and continuous psychotherapeutic care, alongside pharmacological treatment, proved invaluable in building a therapeutic alliance. Although ECT

is more commonly used in the treatment of severe unipolar depression, its efficacy in bipolar affective disorders is comparable. In bipolar disorder, ECT represents a particularly important option in emergency situations and in cases resistant to pharmacological treatment, as illustrated in the article above.

Conclusions

In light of the case discussed, it becomes evident that ECT stands out as an effective and enduring treatment modality for affective bipolar disorders, especially when conventional treatments fail to yield desired outcomes. ECT, a medical procedure that entails the application of a precisely controlled electric current through the brain to trigger a seizure, has been primarily deployed in the management of severe mood disorders, including major depressive episodes and bipolar disorder. Despite its contentious historical backdrop, advancements in anesthesia and monitoring have significantly reduced the risks associated with ECT, mitigating potential adverse effects and enhancing its safety profile.

ECT's efficacy is attributed to its capacity to modify neurotransmitter activity, thereby inducing favorable alterations in brain chemistry. It has been documented to facilitate rapid ameliorations in mood, proving particularly advantageous for individuals at heightened risk of self-harm or those exhibiting resistance to pharmacological and psychotherapeutic interventions.

Nevertheless, the technique has not been without its critics, primarily due to concerns over memory loss and cognitive impairments. Continuous research is being directed towards optimizing the ECT procedure and elucidating its underlying mechanisms to preserve it as a viable treatment alternative for severe affective disorders. Moreover, an integral aspect of this discourse entails the de-stigmatization of ECT as a therapeutic intervention for affective disorders. Despite its proven efficacy, societal stigma and misconceptions have engendered apprehension and reluctance among potential candidates for ECT. It is imperative to disseminate knowledge about the modernization of ECT, emphasizing its regulated administration and the concerted efforts to minimize side effects, to demystify the procedure and shift societal perceptions. This endeavor to dismantle unwarranted stigma is crucial in fostering open dialogues and ensuring unhindered access to this treatment modality for those in need.

As a pharmacotherapy continues to evolve, alongside the anti-psychiatry movement casting psychiatry in a dubious light, ECT has been somewhat overshadowed. Yet, it is paramount to acknowledge ECT as a viable and equivalent treatment option to pharmacotherapy. Under certain conditions, it emerges as the preferred choice, demonstrating remarkable efficacy when administered within the bounds of established indications and contraindications. Some medical institutions advocate for the implementation of outpatient ECT to alleviate wait times for this intervention and to curtail treatment costs. Additionally, the pursuit of novel electrical stimulation techniques for psychiatric and neurological conditions e.g., DBS, TMS continues, reflecting the ongoing innovation in treatment modalities.

In summarizing the discourse on ECT, it is essential to highlight the pivotal role played by medical professionals and therapists in its administration. They bear the responsibility of informing patients and their families about ECT, dispelling fears and prejudices with an informed, compassionate approach. This involves meticulously preparing the patient for the procedure and elucidating the benefits and drawbacks of the therapy, thereby ensuring a well-informed decision-making process.

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Conflict of interest statement

The authors declare no conflict of interest.

Author's contributions

B.J.: conceptualization; B.J., Ch.S., I.H., P.M.: literature search and analysis; B.J., P.M.: writing - first draft; B.J., P.M.: writing - final version and reviewing.

Ethical consideration

Ethical approval and inform consent were not sought for the present paper because it is not a research study involving humans. The article contains a description of a patient who was informed about the fact that the article was being prepared based on the course of his illness. The patient gave his consent. The case description was designed to preserve the patient's anonymity. No sensitive data or data that could affect his identification by a potential reader were disclosed.

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