

When electroconvulsive therapy fails: cognitive-behavioral therapy in treatment-resistant bipolar depression. A case report

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Summary

Background: Electroconvulsive therapy (ECT) is one of the standard treatments for treatment-resistant bipolar depression (TRBD). However, there is limited literature on the role of cognitive-behavioral therapy (CBT) in patients with TRBD who fail to respond to ECT.

Aim: To establish whether TRBD resistant to ECT may be successfully treated with CBT.

Method: A case report of a patient with TRBD who achieved full functional recovery with CBT in combination with pharmacotherapy after failing to respond to ECT.

Results: A 45 year-old male with diabetes mellitus, diabetic retinopathy and bipolar II disorder presented with a third recurrence of a depressive episode. In view of poor response to the combination pharmacotherapy, he was diagnosed with TRBD and prescribed a full course of ECT. Failing that, he was then given CBT in combination with pharmacotherapy and achieved full functional recovery.

Discussion: To date there is a lack of consensus on either the diagnostic criteria of TRBD or evidence-based guidelines for the treatment of TRBD. Adjunctive modafinil, pramipexole, tranylcypromine and vagus nerve stimulation have been tried but the response rate is variable. Family-focused treatment, group psychoeducation and interpersonal and social rhythm therapy have been tried in bipolar depression but more research is still required for TRBD patients that failed to respond to ECT. In conclusion, combination of CBT and pharmacotherapy is worth a try for TRBD patients who do not respond to ECT.

treatment-resistant bipolar depression/electroconvulsive therapy/cognitive-behavioral therapy

Treatment resistant-bipolar depression (TRBD) is generally defined as a depressive episode within bipolar disorder that fails to reach remission with adequately dosed lithium or other adequate ongoing mood-stabilizing treatment, or

quetiapine [1]. As with treatment-resistant major depressive disorder (TRD), electroconvulsive therapy (ECT) is one of the standard treatments for TRBD [2]. To date, there are limited evidence-based therapeutic options for a TRBD patient who fails to respond to ECT. Although cognitive-behavioral therapy (CBT) in combination with pharmacotherapy is efficacious for TRD [3], there is limited literature on its role in TRBD patients who fail to respond to ECT. Here we report a case of a TRBD patient achieving functional recovery with CBT in combination

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with pharmacotherapy after failing to respond to a course of ECT.

CASE

Mr A, a 45-year-old engineer with underlying diabetes mellitus and associated retinopathy on oral hypoglycemic agent, presented to a psychiatric service for the first time when he was 35 years old with major depressive episode (MDE) characterized by persistent low mood, anhedonia, poor concentration, insomnia, hopelessness, as well as prominent anxiety and edginess. He experienced these symptoms due to work stress, which led to poor job performance. He was started on fluoxetine 20 mg daily and achieved full remission after 2 months. He stopped follow-up appointments after 3 months. After a year of defaulting treatment, work-related stress resulted in MDE recurrence. He was treated with different medications: fluoxetine 20 mg daily, venlafaxine 225 mg daily, sodium valproate 500 mg daily, and risperidone 1 mg daily, as fluoxetine alone was not enough. He achieved full remission after 3 months and then stopped follow-up again. When the patient turned 40, his wife observed an episode of hypomania, characterized by increased energy and elated mood, which was associated with a reduced need for sleep, a spending spree and unusual talkativeness. However, no treatment was sought.

He had his third MDE when he was 43 years old, with no identifiable stressor despite careful exploration. This episode was characterized by psychomotor retardation, a sense of worthlessness, and similar depressive symptoms as in the previous episodes. The patient also had prominent anxiety, restlessness and muscle tension. There were no psychotic symptoms. This time he was treated with citalopram 20 mg daily and sodium valproate 500 mg daily. He also attended group therapy. Oral mirtazapine 30 mg daily and olanzapine 5 mg daily were added subsequently as augmentation after 1 year. However, the patient did not respond to treatment and was not able to work for a year, despite good adherence to treatment with supervision from his wife. Hence, the patient sought a second opinion at our center.

Personality disorder and substance abuse were excluded. His diagnosis was revised to bipolar

II disorder with a current episode of depression, and with anxious distress. His olanzapine was cross-tapered with oral quetiapine extended release (XR), which was titrated up to 400 mg daily. Still, his depressive symptoms persisted. His condition was discussed in several clinical conferences with other non-treating psychiatrists and clinical psychologists. The patient and his wife were interviewed separately in the meetings. A diagnosis of TRBD was made and ECT was offered. Citalopram was changed to escitalopram 20 mg daily in view of supply issue.

A full course of ECT, three times a week, was commenced. Seizure threshold was established only at fifth ECT after sodium valproate was taken off. Subsequently, six additional therapeutic ECTs (defined by both motoric and EEG seizures) were given; however, as there was no response in symptoms and the patient was not keen to continue, ECT was terminated.

The patient was then given 20 sessions of CBT. The first two sessions were mainly an explanation of the CBT model and behavioral therapy, and included deep breathing exercises and progressive muscle relaxation. Daily records of automatic thoughts were made every session and a few cognitive distortions were identified, which had hindered the patient's recovery. He had 'catastrophizing thoughts' that his colleagues at work did not understand his depression and that he would be stigmatized because of that; the 'all or none thoughts' that he was a total failure as he was not able to function due to illness; and 'minimization' whereby he minimized all his previous achievements. These dysfunctional thoughts were challenged in every subsequent session. As the patient was anxious about being stigmatized by his colleagues, a behavioral experiment was set for him, which involved interviewing close relatives and friends about their views of depression. A graded task assignment was also planned during each visit according to a subjective unit of distress scale, whereby the patient was given an assignment to visit places nearer and nearer his workplace to reduce his anxiety about returning to work.

A response was noted after six sessions and the patient's Beck Depression Inventory (BDI) score was significantly reduced, from 23 to 11, as he gradually regained a sense of mastery by achieving the tasks that were set for him. He was

able to go back to work after the 16th session. He achieved full remission and functional recovery after 20 sessions. Escitalopram was tapered off after the 12th session in view of sexual side-effects. At 1-year follow-up the patient was managing well with oral quetiapine XR 600 mg daily, mirtazapine 30 mg daily and sodium valproate 400 mg twice daily.

DISCUSSION

To date, there is still a lack of consensus regarding the diagnostic criteria of TRBD and evidence-based guidelines for its treatment. Both pharmacological augmentation strategies and non-pharmacological methods, including adjunctive modafinil, pramipexole, tranlycypromine and vagus nerve stimulation, are used in TRBD treatment but the response rate is variable [1]. Other strategies, such as ketamine infusion, lamotrigine, inositol and risperidone have also been tried. However, a scarce number of level 1 evidence treatment strategies for TRBD have been tested and most are still experimental [4].

ECT has been considered as standard therapy in TRBD and it is one of the most effective treatments. However, a recent randomized controlled trial (RCT) showed that ECT has only slightly better remission rates than algorithm-based pharmacotherapy (34.8% vs 30.0%) [5]. If there is no clinical response after six satisfactory ECT treatments, the decision to continue ECT needs to be reassessed with the patient's input based on the predicted response and remission rate for subsequent treatment, as only 40% of patients who do not show improvement before the sixth ECT will go into remission [6]. This was also the reason why ECT was discontinued in this study.

There is a growing number of studies supporting the use of intravenous ketamine infusion in TRBD and its potential role in reducing suicidal ideation and anhedonia [7]. However, the role of

ketamine infusion after a patient has failed to respond to ECT has yet to be investigated.

Different psychosocial adjunctive therapies have been studied for their effectiveness in bipolar disorder, including family-focused treatment, group psychoeducation, and interpersonal and social rhythm therapy. The addition of psychotherapy provides additional benefit for relapse prevention, symptom improvement and social functioning improvement [2]. Nevertheless, the role of psychosocial therapies in TRBD patients that fail to respond to ECT requires more systematic studies.

In conclusion, a combination of CBT and pharmacotherapy should be considered as an option for patients with TRBD who do not respond to ECT.

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