

It is illegal to post this copyrighted PDF on any website.

Electroconvulsive Therapy for Bipolar Disorder: Evidence Supporting What Clinicians Have Long Known

Charles H. Kellner, MD^{a,*}; Gabriella M. Ahle, BA^a; and Emma T. Geduldig, BA^a

The effectiveness of electroconvulsive therapy (ECT) as an acute antidepressant is well known; less commonly known is the effectiveness of ECT as a mood stabilizer, that is, as an antimanic treatment, and by extension, an antimixed state treatment. In this issue of the *Journal*, Medda and colleagues¹ report of the high effectiveness of ECT in a cohort of nearly 200 bipolar patients with mixed affective states adds important evidence to this knowledge base. In this commentary, we review the evidence for the effectiveness of ECT in all phases of bipolar disorder.

There is no reason to suspect that ECT would be any less effective for bipolar depression than for unipolar depression, yet this remains a commonly held belief. Similarly, many practitioners seem to think that there is only meager evidence for ECT's effectiveness in bipolar depression, but this is untrue. There is a long history of clinical use of ECT for bipolar depression and a systematic evidence base that is catching up with this experience.

In a study of the efficacy of ECT in a cohort of 220 unipolar ($n = 170$) and bipolar ($n = 50$) depressed patients, Bailine et al² found no significant difference in remission rates between the 2 groups when remission was defined as a score of less than or equal to 10 on the 24-item Hamilton Depression Rating Scale (HDRS₂₄). Similarly, recent studies by Dierckx et al³ and Narayanaswamy et al⁴ comparing ECT response and remission rates among bipolar and unipolar depressed patients found no significant difference in the efficacy of ECT. Some studies have also shown that bipolar depressed patients require fewer treatments to achieve “responder” or “remitter” status. In the study of Sienaert et al,⁵ bipolar depressed patients ($n = 13$) required approximately 7–8 treatments to achieve response or remission status, whereas unipolar depressed patients ($n = 51$) required, on average, 9–11 treatments to achieve response or remission. Likewise, in a reanalysis of data by Daly et al,⁶ bipolar patients ($n = 66$) showed a 54.9% reduction (SD = 31.9%) in HDRS score compared with a 43.9% reduction (SD = 29.8%) among unipolar patients ($n = 162$) after 6 ECT treatments.

Medda et al⁷ reviewed the efficacy of ECT in all 3 depressive subtypes; response rates were high for all (unipolar, 88.2%, $n = 17$; bipolar I, 69.6%, $n = 67$; and bipolar II, 73.1%, $n = 46$). However, bipolar I depressed patients exhibited higher residual manic and psychotic symptomatology, as measured by the Young Mania Rating Scale (YMRS) and Brief Psychiatric Rating Scale (BPRS).

Electroconvulsive therapy has long been used as a “rescue” treatment for refractory mania. In contemporary psychiatric practice, most, even severely, manic patients eventually respond to pharmacotherapy—usually a combination of mood stabilizers and tranquilizers, often at high doses. For those who do not, ECT is an important and usually quickly effective alternative treatment.

In a review of the use of ECT in mania over a period of 50 years, Mukherjee et al⁸ concluded that 80% of 589 manic patients remitted. Included in their review was an earlier study by Black et al⁹ that showed a 60% remission rate in manic patients who had responded poorly to lithium or neuroleptics. Electroconvulsive therapy should be considered especially in cases of delirious mania, also called excited catatonia and malignant catatonia. Characterized by a sudden onset of delirium, mania, and psychosis, and often accompanied by fever, dehydration, and autonomic dysfunction, delirious mania qualifies as a medical emergency.

Electroconvulsive therapy, like most antidepressants, can precipitate switches from depression into hypomania or mania, although, in practice, this is uncommon. Bailine et al² observed that only 9% of 220 depressed patients (170 unipolar, 50 bipolar) scored in the mild-to-moderate range on the Clinician-Administered Rating Scale for Mania Outcome (CARS) at some point during the ECT course, with only 1 score falling within the moderate range at the end of the treatment course. Treatment-emergent hypomania can be treated either by interruption of the ECT course (in which case, the hypomania may subside spontaneously, or it can be treated with medications), or by continuation of ECT, the mood stabilizing effect of which will treat the hypomania.

The consent process can be particularly challenging with manic patients and may require the participation of family members, and/or the judicial system, in order to proceed with necessary treatment.¹⁰

Mixed bipolar states, in which patients exhibit a combination, often simultaneously, of depressive and manic symptoms, have received much less research attention than pure depression or mania. The evidence base for ECT in mixed states is quite limited.

^aDepartment of Psychiatry, Icahn School of Medicine at Mount Sinai, New York, New York.

*Corresponding author: Charles H. Kellner, MD, Department of Psychiatry, Icahn School of Medicine at Mount Sinai, One Gustave L. Levy Pl, Box 1230, New York, NY 10029 (charles.kellner@mssm.edu).

J Clin Psychiatry 2015;76(9):e1151–e1152
dx.doi.org/10.4088/JCP.14com09498

© Copyright 2015 Physicians Postgraduate Press, Inc.

It is illegal to post this copyrighted PDF on any website.

Gruber et al¹¹ reported remission after ECT in 7 pharmacotherapy-resistant mixed state patients. Previous research by Medda et al¹² showed similar rates of response in a sample of depressed (n = 46) and mixed state (n = 50) bipolar I patients, 67.5% and 76%, respectively. Another study showed that ECT may, in fact, be more effective in mixed state patients. Ciapparelli et al¹³ found that mixed state patients (n = 41) had a significantly greater decrease in depression rating scores, a greater reduction in suicidality, and a more rapid response than bipolar depressed patients (n = 23). Contrary to these findings, Devanand et al¹⁴ reported that mixed state patients

(n = 10) required a greater number of ECT treatments than bipolar depressed and manic patients to achieve response.

This most recent contribution of Medda et al¹ to the literature on ECT in mixed states provides strong evidence for the utility of ECT in pharmacotherapy-resistant mixed state bipolar patients; after a course of ECT in 197 patients, 41.6% responded and 30.5% remitted. Their report also serves as a reminder of the overall important role of ECT in the treatment of severely ill bipolar patients. The time has come to stop being surprised that ECT works in all phases of bipolar disorder.

Submitted: September 9, 2014; accepted September 15, 2014.

Potential conflicts of interest: Dr Kellner has received grant/research support from NIMH; honoraria from UpToDate, *Psychiatric Times*, and Northshore-LIJ; and other financial or material support from Cambridge University Press. **Mss Ahle and Geduldig** have no conflicts to report.

Funding/support: None reported.

REFERENCES

1. Medda P, Toni C, Marian MG, et al. Electroconvulsive therapy in 197 patients with a severe, drug-resistant bipolar mixed state: treatment outcome and predictors of response. *J Clin Psychiatry*. 2015;76(9):1168–1173.
2. Bailine S, Fink M, Knapp R, et al. Electroconvulsive therapy is equally effective in unipolar and bipolar depression. *Acta Psychiatr Scand*. 2010;121(6):431–436.
3. Dierckx B, Heijnen WT, van den Broek WW, et al. Efficacy of electroconvulsive therapy in bipolar versus unipolar major depression: a meta-analysis. *Bipolar Disord*. 2012;14(2):146–150.
4. Narayanaswamy JC, Viswanath B, Reddy PV, et al. Efficacy of ECT in bipolar and unipolar depression in a real life hospital setting. *Asian J Psychiatr*. 2014;8:43–46.
5. Sienaert P, Vansteelandt K, Demyttenaere K, et al. Ultra-brief pulse ECT in bipolar and unipolar depressive disorder: differences in speed of response. *Bipolar Disord*. 2009;11(4):418–424.
6. Daly JJ, Prudic J, Devanand DP, et al. ECT in bipolar and unipolar depression: differences in speed of response. *Bipolar Disord*. 2001;3(2):95–104.
7. Medda P, Perugi G, Zanella S, et al. Response to ECT in bipolar I, bipolar II and unipolar depression. *J Affect Disord*. 2009;118(1–3):55–59.
8. Mukherjee S, Sackeim HA, Schnur DB. Electroconvulsive therapy of acute manic episodes: a review of 50 years' experience. *Am J Psychiatry*. 1994;151(2):169–176.
9. Black DW, Winokur G, Nasrallah A. Treatment of mania: a naturalistic study of electroconvulsive therapy versus lithium in 438 patients. *J Clin Psychiatry*. 1987;48(4):132–139.
10. Miller MC. ECT and mania. *Am J Psychiatry*. 1995;152(4):654.
11. Gruber NP, Dilsaver SC, Shoaib AM, et al. ECT in mixed affective states: a case series. *J ECT*. 2000;16(2):183–188.
12. Medda P, Perugi G, Zanella S, et al. Comparative response to electroconvulsive therapy in medication-resistant bipolar I patients with depression and mixed state. *J ECT*. 2010;26(2):82–86.
13. Ciapparelli A, Dell'Osso L, Tundo A, et al. Electroconvulsive therapy in medication-nonresponsive patients with mixed mania and bipolar depression. *J Clin Psychiatry*. 2001;62(7):552–555.
14. Devanand DP, Polanco P, Cruz R, et al. The efficacy of ECT in mixed affective states. *J ECT*. 2000;16(1):32–37.