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PUBLICATION: *Journal of ECT*, March 2022, Volume 38, Issue 1

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Research

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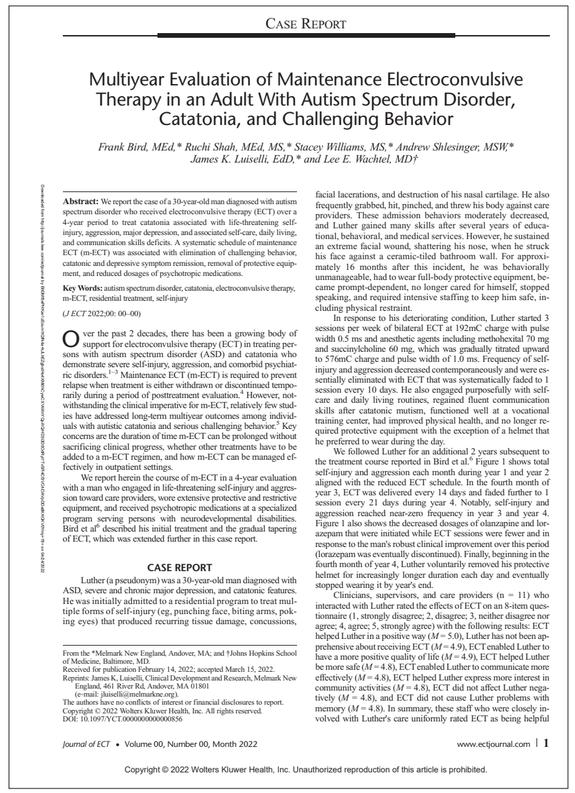

CASE REPORT

Multiyear Evaluation of Maintenance Electroconvulsive Therapy in an Adult With Autism Spectrum Disorder, Catatonia, and Challenging Behavior

Frank Bird, MEd, Ruchi Shah, MEd, MS,* Stacey Williams, MS,* Andrew Shlesinger, MSW,* James K. Luiselli, EdD,* and Lee E. Wachtel, MD†*

Abstract: We report the case of a 30-year-old man diagnosed with autism spectrum disorder who received electroconvulsive therapy (ECT) over a 4-year period to treat catatonia associated with life-threatening self-injury, aggression, major depression, and associated self-care, daily living, and communication skills deficits. A systematic schedule of maintenance ECT (m-ECT) was associated with elimination of challenging behavior, catatonic and depressive symptom remission, removal of protective equipment, and reduced dosages of psychotropic medications.

Key Words: autism spectrum disorder, catatonia, electroconvulsive therapy, m-ECT, residential treatment, self-injury

(*J ECT* 2022;00: 00–00)

Over the past 2 decades, there has been a growing body of support for electroconvulsive therapy (ECT) in treating persons with autism spectrum disorder (ASD) and catatonia who demonstrate severe self-injury, aggression, and comorbid psychiatric disorders.[1–3] Maintenance ECT (m-ECT) is required to prevent relapse when treatment is either withdrawn or discontinued temporarily during a period of posttreatment evaluation.[4] However, notwithstanding the clinical imperative for m-ECT, relatively few studies have addressed long-term multiyear outcomes among individuals with autistic catatonia and serious challenging behavior.[5] Key concerns are the duration of time m-ECT can be prolonged without sacrificing clinical progress, whether other treatments have to be added to a m-ECT regimen, and how m-ECT can be managed effectively in outpatient settings.

We report herein the course of m-ECT in a 4-year evaluation with a man who engaged in life-threatening self-injury and aggression toward care providers, wore extensive protective and restrictive equipment, and received psychotropic medications at a specialized program serving persons with neurodevelopmental disabilities. Bird et al[6] described his initial treatment and the gradual tapering of ECT, which was extended further in this case report.

CASE REPORT

Luther (a pseudonym) was a 30-year-old man diagnosed with ASD, severe and chronic major depression, and catatonic features. He was initially admitted to a residential program to treat multiple forms of self-injury (eg, punching face, biting arms, poking eyes) that produced recurring tissue damage, concussions, facial lacerations, and destruction of his nasal cartilage. He also frequently grabbed, hit, pinched, and threw his body against care providers. These admission behaviors moderately decreased, and Luther gained many skills after several years of educational, behavioral, and medical services. However, he sustained an extreme facial wound, shattering his nose, when he struck his face against a ceramic-tiled bathroom wall. For approximately 16 months after this incident, he was behaviorally unmanageable, had to wear full-body protective equipment, became prompt-dependent, no longer cared for himself, stopped speaking, and required intensive staffing to keep him safe, including physical restraint.

In response to his deteriorating condition, Luther started 3 sessions per week of bilateral ECT at 192mC charge with pulse width 0.5 ms and anesthetic agents including methohexital 70 mg and succinylcholine 60 mg, which was gradually titrated upward to 576mC charge and pulse width of 1.0 ms. Frequency of self-injury and aggression decreased contemporaneously and were essentially eliminated with ECT that was systematically faded to 1 session every 10 days. He also engaged purposefully with self-care and daily living routines, regained fluent communication skills after catatonic mutism, functioned well at a vocational training center, had improved physical health, and no longer required protective equipment with the exception of a helmet that he preferred to wear during the day.

We followed Luther for an additional 2 years subsequent to the treatment course reported in Bird et al.[5] Figure 1 shows total self-injury and aggression each month during year 1 and year 2 aligned with the reduced ECT schedule. In the fourth month of year 3, ECT was delivered every 14 days and faded further to 1 session every 21 days during year 4. Notably, self-injury and aggression reached near-zero frequency in year 3 and year 4. Figure 1 also shows the decreased dosages of olanzapine and lorazepam that were initiated while ECT sessions were fewer and in response to the man's robust clinical improvement over this period (lorazepam was eventually discontinued). Finally, beginning in the fourth month of year 4, Luther voluntarily removed his protective helmet for increasingly longer duration each day and eventually stopped wearing it by year's end.

Clinicians, supervisors, and care providers (n = 11) who interacted with Luther rated the effects of ECT on an 8-item questionnaire (1, strongly disagree; 2, disagree; 3, neither disagree nor agree; 4, agree; 5, strongly agree) with the following results: ECT helped Luther in a positive way ($M = 5.0$), Luther has not been apprehensive about receiving ECT ($M = 4.9$), ECT enabled Luther to have a more positive quality of life ($M = 4.9$), ECT helped Luther be more safe ($M = 4.8$), ECT enabled Luther to communicate more effectively ($M = 4.8$), ECT helped Luther express more interest in community activities ($M = 4.8$), ECT did not affect Luther negatively ($M = 4.8$), and ECT did not cause Luther problems with memory ($M = 4.8$). In summary, these staff who were closely involved with Luther's care uniformly rated ECT as being helpful to his long-term development, acquisition of skills, and elimination of problem behavior.

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Received for publication February 14, 2022; accepted March 15, 2022.
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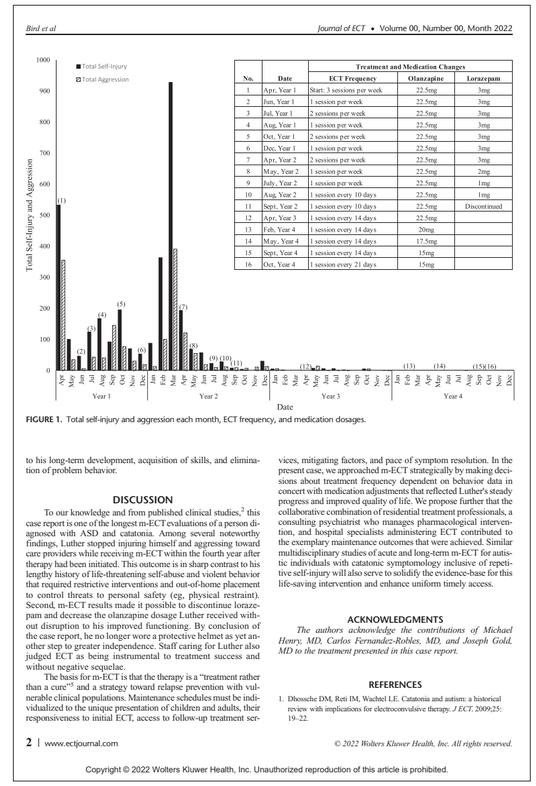
The authors have no conflicts of interest or financial disclosures to report.

DOI: 10.1097/YCT.0000000000000856



No.	Date	Treatment and Medication Changes		
		ECT Frequency	Olanzapine	Lorazepam
1	Apr., Year 1	Start: 3 sessions per week	22.5mg	3mg
2	Jun., Year 1	1 session per week	22.5mg	3mg
3	Jul. Year 1	2 sessions per week	22.5mg	3mg
4	Aug, Year 1	1 session per week	22.5mg	3mg
5	Oct, Year 1	2 sessions per week	22.5mg	3mg
6	Dec, Year 1	1 session per week	22.5mg	3mg
7	Apr., Year 2	2 sessions per week	22.5mg	3mg
8	May., Year 2	1 session per week	22.5mg	2mg
9	July., Year 2	1 session per week	22.5mg	1mg
10	Aug, Year 2	1 session every 10 days	22.5mg	1mg
11	Sept., Year 2	1 session every 10 days	22.5mg	Discontinued
12	Apr., Year 3	1 session every 14 days	22.5mg	
13	Feb, Year 4	1 session every 14 days	20mg	
14	May., Year 4	1 session every 14 days	17.5mg	
15	Sept., Year 4	1 session every 14 days	15mg	
16	Oct., Year 4	1 session every 21 days	15mg	

FIGURE 1. Total self-injury and aggression each month, ECT frequency, and medication dosages.

DISCUSSION

To our knowledge and from published clinical studies,[2] this case report is one of the longest m-ECT evaluations of a person diagnosed with ASD and catatonia. Among several noteworthy findings, Luther stopped injuring himself and aggressing toward care providers while receiving m-ECT within the fourth year after therapy had been initiated. This outcome is in sharp contrast to his lengthy history of life-threatening self-abuse and violent behavior that required restrictive interventions and out-of-home placement to control threats to personal safety (eg, physical restraint). Second, m-ECT results made it possible to discontinue lorazepam and decrease the olanzapine dosage Luther received without disruption to his improved functioning. By conclusion of the case report, he no longer wore a protective helmet as yet another step to greater independence. Staff caring for Luther also judged ECT as being instrumental to treatment success and without negative sequelae.

The basis for m-ECT is that the therapy is a "treatment rather than a cure"[5] and a strategy toward relapse prevention with vulnerable clinical populations. Maintenance schedules must be individualized to the unique presentation of children and adults, their responsiveness to initial ECT, access to follow-up treatment services, mitigating factors, and pace of symptom resolution. In the present case, we approached m-ECT strategically by making decisions about treatment frequency dependent on behavior data in concert with medication adjustments that reflected Luther's steady progress and improved quality of life. We propose further that the collaborative combination of residential treatment professionals, a consulting psychiatrist who manages pharmacological intervention, and hospital specialists administering ECT contributed to the exemplary maintenance outcomes that were achieved. Similar multidisciplinary studies of acute and long-term m-ECT for autistic individuals with catatonic symptomology inclusive of repetitive self-injury will also serve to solidify the evidence-base for this life-saving intervention and enhance uniform timely access.

ACKNOWLEDGMENTS

The authors acknowledge the contributions of Michael Henry, MD, Carlos Fernandez-Robles, MD, and Joseph Gold, MD to the treatment presented in this case report.

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