



The Use of Electroconvulsive Treatment (ECT) in the Treatment of ASD and Catatonia: An Example of a Data-driven Approach

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In the context of evidence-based treatment, it is sometimes difficult to discern which diagnoses may have relevance to an individual and which new treatments may be appropriate. Yet, complex cases require the input of broad expertise and the openness to treatments that may be individually advantageous. The following case study illustrates the importance of several crucial elements of programming in complex cases: 1) the urgent need for a comprehensive, interdisciplinary approach; 2) the need for data collection and data-based decision-making; and 3) the cautious sharing of results to build the available data base for unusual and complex cases.

Clarification

This case illustrates the use of ECT in the treatment of catatonia in an adult with autism. It is important to note the difference distinction between Contingent Electric Skin Shock (CESS) and Electro Convulsive Therapy (ECT), and to reaffirm that Luther did not receive CESS. This is an important distinction, as CESS has been identified as unethical and inhumane, and concerns have been raised about its use, both within the field of behavior analysis (Massachusetts Association for behavior Analysis, 2021) and outside of behavior analysis (United Nations, 2013).

In contrast, ECT has been therapeutically used for severe mental illness as an evidence-based medical procedure of last resort for some time. And, as noted above, ECT has recently been suggested and supported for the treatment of individuals with ASD who are experiencing extreme self-injury and other significant signs of physical and mental deterioration.

Participant

Luther was a 30-year-old man who has been living in a residential program for individuals with autism for 16 years. His early history included severe neglect. His admission, at age 14, followed a one-year hospitalization that resulted from life-threatening self-injury. Self-injurious behavior continued to be a persistent and constant issue for Luther, although it was also variable. Great progress was made in academic, self-care, behavioral, and self-advocacy realms. However, about 9 years into his residential stay, Luther engaged in extremely severe self-injury on ceramic tile, lacerating his face. For 16 months after this incident, Luther continued to engage in increasingly dangerous and forceful amount of self-injury. To keep him safe, he needed 24 hour continual monitoring, and a wide variety of protective equipment (e.g., helmet, knee pads, wrist pads). Along with these behavioral issues, he began losing skills and motivation, which is associated with catatonia as it persists. He stopped speaking, did not attend preferred activities, developed enuresis, and stopped all self-care activities.

Reason for ECT as a consideration

The team began engaging many different medical professionals, including psychiatrists with expertise in diagnosing major mental disorders in individuals with developmental disabilities. Luther was ultimately diagnosed with major depression, severe, with catatonic features. Catatonia is a psychiatric condition associated with immobility, body posturing, a reduced responsiveness to the environment, mutism, and stereotypy (American Psychiatric Association, 2013; Rasmussen et al, 2016). It has also been reported to be associated with a reduction eating and with other forms of extreme behavioral slowing and cessation. Catatonia has been discussed as a comorbid condition with autism for a number of years, but it was initially poorly understood in terms of its presentation, impact, and course (Breen & Hare, 2017; Wing & Shah, 2000). Recently, premorbid characteristics of catatonia in individuals with autism have been identified, along with improved methods for identifying and treating it (e.g., Downey & McDonald, 2019). The catatonia diagnosis was supported in this case by the sudden behavioral deterioration, the accompanying anhedonia (loss of interest and enjoyment in previously preferred activities), the extreme loss of appetite and weight, the loss of speech and severe motor slowing, and the violent episodes of self-injury.

Interestingly, several authors have proposed that the association between ASD and catatonia is strong and unique. Clinicians have been urged to separate self-injury that is under operant control from self-injury that may be neurologically based (Wachtel & Dhossche, 2010). It also appears that there is a connection between catatonia and anxiety, and that trauma and other events may precipitate catatonia. Additionally, individuals with ASD may have a special vulnerability to catatonia (Dhossche et al. 2012; Shorter & Fink, 2018).

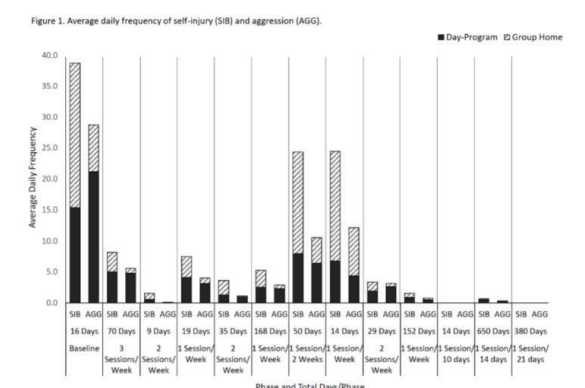
Prior research has further supported the connection between ASD and catatonia in some individual cases. In these cases, electroconvulsive therapy (ECT) had been shown to be effective. In several cases, it has been applied to individuals with ASD who were exhibiting severe self-injury and psychosocial deterioration (e.g., DeJong et al., 2014; Dhossche & Wachtel, 2013; Wachtel et al., 2010). In one case, Wachtel (2009) reported on a 9-year-old boy who exhibited self-injury, and who also exhibited mood instability, a lack of self-care, and repetitive motor movements. After a course of ECT treatment over 5 weeks, improvements were seen in all areas of functioning, and included improved family interactions, play skills, and general affect. Dhossche (2014) treated a 4-year-old boy who became immobile, and who stopped communicating and eating following a traumatic event. After being unresponsive to medications, ECT was administered several times a week for 4 weeks. The child was able to fully regain all functional skills that had been lost.

Withane and Dhossche (2018) also reported on two autistic individuals, aged 13 and 16, who deteriorated suddenly, and began exhibiting immobility, extreme withdrawal, odd movements, and a loss of communication. Both individuals were successfully treated with ECT, which was administered in maintenance doses and was able to be faded.

In this emerging literature, several elements are consistently noted. First, the presence of self-injury that is extreme, is unresponsive to behavioral contingencies, and that may precipitously change. Second, there are often motor abnormalities that are distinct, including immobility, extreme slowing, and odd positioning. There is often a loss of speech and communication and a loss of other skills, along with a loss of motivation for or engagement in usual activities. Finally, there is often a severe reduction in appetite and eating, including a possible failure to eat, with accompanying weight loss.

Treatment

ECT was administered to treat the catatonia, in a hospital based setting with continuous medical monitoring. Perhaps most notably, the schedule of ECT was reduced over time, to a maintenance level of every 2 weeks. Some earlier reduction in the administration schedule did result in temporarily higher rates of aggression and self-injury, and the schedule weaning was adjusted. These changes are depicted on the graph.



Outcomes

The severity and frequency of self-injury dramatically decreased with the ECT. Additional changes included a return to normal activities, a resumption of eating, and weight gain (Bird et al., 2021). The case study is an illustration that ECT was used to reduce health threatening behaviors, increase engagement, and improve quality of life in an individual diagnosed with autism and catatonia. The treatment was a choice of last resort, and was a decision made by a team of experts with the requisite knowledge and skill to conduct this intervention with precision, continuous analysis, and constant data-based adjustments.

Implications

It is imperative that such interventions be considered only in the most extreme and extraordinary of circumstances when behaviors disrupt the ability to participate meaningfully in activities. Under these conditions it could be a failure of the treatment team to refuse to consider intrusive or controversial therapies. Indeed, Luther's quality of life was extremely low, and he was on a deteriorating course. His clinical team recognized the absence of appropriate expertise and availed themselves of experts. All other avenues had been explored, and problems continued at an untenable level. Quality of life issues were becoming increasingly prominent. Under these conditions, additional expertise was sought.

These outside consultations raised the possibility of catatonia, a low incidence disorder that had only been linked to autism by a few researchers. A couple of case studies underscored the potential connection, but it was certainly an area that was just emerging in medical practice. The team's decision to bring in outside experts was important, as it broadened the lens through which Luther's deterioration was being viewed. It brought the catatonia to light, and this opened the possibility of the ECT treatment. Given the severity of the presenting issues, the deteriorating pattern, and the expert opinions solicited, this course of treatment dramatically altered a frightening course for Luther.