Psychopharmacol Bull. *2025;55(3):66–70.*
Key Words: autism, shutdown, antipsychotics

Antipsychotic Treatment of Autistic Shutdowns—A Case Study

By Kevin Colwell, Keenan Boianghu, Jillian Komornik, Susan Brown

Case History

The client was a 23-year-old, White (non-Latinx) female. She was 5′3″ tall and weighed approximately 148 lbs. at the beginning of the study (she gained approximately 8 lbs during the antipsychotic treatment). She began tracking shutdowns early in therapy, and she continued to track them through the entirety of the study period.

Her diagnosis of ASD was based upon clinical interviewing, interviewing with her mother and father, and the administration of the tests presented below. As per the Slick Criteria,[1] her diagnosis of ASD was based upon multiple, generally independent data points (Table 1).[i]

Symptomatology

The client experienced shutdowns in a predictable progression. This came from direct observation and from her after-the-fact description of the experience. The first sign was always increased "stimming," and eye blinking. The stimming would ebb, and she would appear distracted or dissociated (subjectively, she reported feeling disconnected). Next, she would lose the ability to initiate speech, followed by losing auditory and then visual awareness. She would then lose muscle tone, and finally, she would lose consciousness altogether. She referred to the end of this process as, "passing out," when she began treatment.[ii] This was not psychogenic non-epileptic seizures (also known as, "conversion seizures"). Each occurrence was specific to an identifiable stressor or stressors, and the stressors were always things made more difficult by autism. The stressors included transitions, the presence

[i] Her treating psychologist administered and scored all tests.

[ii] The client was evaluated by 2 neurologists to make certain she was not experiencing epilepsy. She had a general EEG, and a 24-hour EEG. She had shutdown episodes, but she did not have any epileptic activity.

Colwell, PhD, Director, Alliance–Psychology, Advocacy, & Support, Cheshire, CT. Boianghu, BA, Komornik, BS, Alliance Psychology, Cheshire, CT. Brown, APRN, CNS, Private Practice, Cheshire, CT.

To whom correspondence should be addressed: Kevin Colwell, PhD, Director, Alliance–Psychology, Advocacy, & Support, Cheshire, CT. E-mail: kcphd@alliancepsy.com.

TABLE 1

Diagnostic Test Results Prior to Treatment

TEST	STANDARD SCORE	INTERPRETATION
ADOS		
Communication	5	ASD
Social Interaction	10	ASD
Total	15	ASD
GARS-3		
Autism Index	100(50th percentile)[a]	Very Likely ASD
MIGDAS-2		
Sensory Use and Interests	3 of 3	Consistent with ASD
Language and Communication	4 of 5	Consistent with ASD
Social and Emotional	4 of 5	Consistent with ASD
Total	11 of 13	Consistent with ASD
PAI		
Warmth	31(03rd percentile[b])	This scale has a negative correlation with Autism. However, it is not diagnostic in itself.

[a]Compared to sample with a diagnosis of autism spectrum disorder; [b]Compared to a US census-matched, general population sample.

of strangers, and thinking about things that caused anxiety such as relationships. These were not from a conversion disorder, in that the stressors were obvious and easily identified by the client. Also, the client had no trauma history or personality disorder issues. In short, the client was autistic, but the client did not have a conversion disorder.

Method

The client participated in a neuropsychological evaluation that ended February 17th of 2023, and began psychotherapy on February 24th of 2023. The client began gathering shutdown data in February of 2024. The data presented here were gathered continually for 229 days. For this study, the operational definition limited "shutdown" to episodes where she lost consciousness. She recorded the data herself, upon awakening from each episode, by tallying it in her cell phone. She also gathered data regarding the antecedents of the shutdowns at the end of each day that had at least one shutdown. The data were not collected in a manner that allowed for linking a specific trigger to a specific shutdown. The antecedents that she recorded included transitions (changing activities, changing locations, beginning new tasks), social anxiety (interacting in a situation that included perceived evaluation), discussing difficult topics such as relationships, and job stress.

In a strange and unfortunate turn of events (due solely to budgeting), her teaching job was cut from the budget during the final third of the school year. As a consequence, she was laid off for the rest of the school year, and was told that she would not be rehired at the beginning of the next year. She was required, if she wanted any job at all, to teach her classes as a long-term substitute. This was a very difficult situation that dragged on for months. She was, however, reinstated as a teacher and there was a budget line for her position for the upcoming school year. This happened the week prior to the initiation of antipsychotic treatment. This is important, because the medication demonstrated a strong effect despite the fact that she was facing very strong psychosocial stressors that otherwise would have greatly increased the rate of shutdowns.

Medication Treatment. The client was titrated up to a maintenance level of .25 mg of risperidone, daily. However, she developed unacceptable side effects (lactation and movement symptoms indicating a risk of tardive dyskinesia). She took risperidone 45 days before changing. She was switched to aripiprazole and eventually reached a dose of 2 mg per day. She developed a morbilliform skin rash and was switched to brexpiprazole after 21 days. On brexpiprazole, she eventually reached a maintenance dose of 2 mg per day and took this until the end of the study (approximately 65 days). The client began taking propranolol prior to the beginning of antipsychotic treatment, and she took the same dosage daily through the entire period of the study (10 mg 2 × daily).

Results

No Antipsychotic. During the baseline period (with only propranolol), she reported 1.83 shutdowns per day (sd = 1.88). This allowed for comparison to the treatment period, during which she took antipsychotics. In comparing baseline to treatment, there was a significant overall MANOVA for the effect of antipsychotic medications as a group. $F(1,3) = 50.3$, $p < .01$, partial eta = .46 (Table 2).

Risperidone. The client averaged almost triple the number of shutdowns per day taking propranolol alone as she did when taking risperidone plus propranolol (Mean shutdowns per day = .18, sd = .68). This was a difference of −1.66 per day (95% CI = −2.1 to −1.16 shutdowns per day). An LSD test indicated this to be a significant difference ($p < .01$).

Aripiprazole. Her shutdowns on aripiprazole were somewhat but not significantly higher than with risperidone and brexpiprazole (Mean shutdowns per day = .57, sd = .93). This was a difference of .39 shutdowns per day (95% CI = −1.13 to .34, p = .29) compared to risperidone. One reason for the slight increase (nonsignificant) with

TABLE 2

ANOVA of No Antipsychotic Compared to Each of the 3 Antipsychotics Used in This Trial

MEDICATION	SHUTDOWNS/DAY	SD	95% CI	*P*	d´
No antipsychotic	1.84[a]	1.88	−1.77, 5.43		
Risperidone	.18[b]	.68	−.02, .38	<.001	−1.41
Aripiprazole	.57[b]	.93	.17, .97	<.001	−.9
Brexpiprazole	.52[b]	1.1	.26, .78	<.001	−.89

[a,b]Means with different superscripts differed at the .001 level.

aripiprazole was that the initial phase of treatment with aripiprazole was quite stimulating for the client. It produced nervousness and restlessness. These faded, and the medication became therapeutic. It was, in fact, somewhat sedating after the initial period.

Brexpiprazole. This medication was generally effective from the beginning. It led to a slight, but nonsignificant, difference compared to its predecessors (Mean shutdowns per day = .52, sd = 1.08). This was a difference of −.05 shutdowns per day compared to aripiprazole (95% CI = −.75 to .65), and .34 shutdowns per day compared to risperidone (95% CI = −.20 to .89). There was still the undesirable side effect of hyperprolactinemia. However, it was very effective with reducing shutdowns.

Discussion

Overall, the use of antipsychotic medications was tremendously effective in reducing shutdowns. The rate of shutdowns per day dropped from 1.8 to .42 per day. This was a reduction of 77%. Also, when a shutdown did occur, it appeared to require more time to progress from stimming to unconscious. After data collection ended, this increased elapsed time provided more opportunities for interventions to further short-circuit the process (mostly awareness and distraction-based techniques).

Shutdowns are a very troubling phenomenon associated with autism. They are not a necessary part of the diagnosis. However, a proportion of those with autism experience shutdowns, and this situation is ripe for research. Importantly, shutdowns may be misunderstood by teachers and caregivers. The perception that shutdowns are the result of a learned pattern of behavioral avoidance to stress is not uncommon among the families and teachers of the clients at our practice. However, observations such as extreme passivity (vs active resistance) and lack of reward-based engagement suggest that the client is manifesting an overwhelming physiological state rather than engaging in active avoidance.[2]

When a parent tells a child to do something, and the child stares at the parent in an unresponsive manner, or they put their head into their hands, parents often believe the child is being oppositional. Often, this is just an autistic person having a shutdown. This is a different phenomenon from oppositionality, and must be handled differently.

There is a positive feedback loop such that the neurological environment created by a shutdown facilitates the initiation of the next shutdown.[3] Thus, shutdowns can lead to shutdowns. There are two potential negative sequences that can result from frequent repetitive shutdowns. First, multiple repetitive shutdowns, like any intense sympathetic nervous system reaction, are hypothesized to lower fear thresholds and increase emotional reactivity.[3] This increase in emotional reactivity would then increase future shutdowns. Second, repetitive shutdowns are hypothesized to have an excitotoxic effect, and damage neurons. Our client definitely experienced shutdowns in clusters.

One obvious problem was the undesirable side effects of antipsychotics. These included involuntary movements and lactation. This will be different for each person, and the cost-benefit analysis of treatment will be important. Prescribers need to be sensitive to the experiences of the client.

The authors hope that this paper facilitates future research into the precise definition of shutdowns, their prevalence and incidence, their neurological and behavioral correlates, and issues related to their assessment and treatment. The fact that antipsychotic medication had such a powerful effect on this particular client was impressive and can lay the groundwork for the treatment of others with this condition. ✤

References

1. Slick D, Sherman E, Iverson G. Diagnostic criteria for malingered neurocognitive dysfunction: proposed standards for clinical practice and research. *Clinical Neuropsychologist*. 1999;13(4):45–561.
2. Loos HG, Loos Miller IM. *Shutdown States and Stress Instability in Autism*. 2004.
3. Theoharides TC, Kavalioti M, Tsilioni I. Mast Cells, Stress, Fear and Autism Spectrum Disorder. *International Journal of Molecular Sciences*. 2019;20(15). https://doi.org/10.3390/ijms20153611.