

Mental Health Influences on Aggressive Behavior in Individuals with Angelman Syndrome

Learning Objectives

- Learn techniques to identify mental illness in Angelman syndrome.
- Learn how to prepare for a mental health assessment.
- Identify when it is time to consider treatment with psychotropic medications.
- Become familiar with psychotropic medications and their role in treatment of behavioral concerns in Angelman syndrome.

Identifying Mental Illness in Angelman Syndrome

Risk factors

Individuals with Angelman syndrome may develop mental illness, just like people without a developmental disability. Risk factors for these illnesses can include family history of mental illness and stressful life events (such as the loss of a loved one).

What are the signs of mental illness in AS?

Often when an individual with Angelman syndrome is suffering from a mental illness their behavior changes dramatically. Because of their communication impairments, behavioral changes are their way of telling us what is happening to them emotionally. One major behavioral change that can be indicative of mental illness is an increase in irritability and aggressive or disruptive behavior. Individuals who are anxious or sad often have less patience and tolerance of difficult tasks or unwanted activities, and this can lead to disruptive behavior.

How do we identify mental illness in AS?

Due to the impairments in communication common to individuals with Angelman syndrome, mental illness must be identified by tracking changes in behaviors indicative of these illnesses.

What are examples of behavioral changes related to anxiety or depression?

For example, changes in sleep and energy level, increased irritability, mood changes, and changes in

eating habits may all indicate the presence of anxiety or depression.

What are ADHD related behaviors?

Attention deficit hyperactivity disorder (ADHD) symptoms may include impulsivity, hyperactivity, poor focus, and high levels of distractibility.

Are some of these behaviors intrinsic to AS?

It is important to remember that some of the symptoms mentioned above may also be intrinsic to Angelman syndrome. However, if the symptoms represent a **change in functioning** and are **limiting to the individual**, it may be time to consider the presence of mental illness. Use the chart below to help identify potential **changes** that may be indicative of mental illness.

Getting Treatment for Suspected Mental Illness in Angelman Syndrome

Are behavioral changes always indicative of mental illness?

Behavioral changes are not always indicative of mental illness, so it is important to first rule out other causes of difficult behavior such as medical illness, communication difficulties, and social and environmental factors. Work with your primary care physician, other caregivers, therapists to identify and treat/change these potential factors (also see the other modules in this series).

What should we do if other causes are ruled out?

Once these factors have been addressed, working with a psychologist or psychiatrist to identify the presence of mental illness may be appropriate. Mental health professionals will use tools such as the diagnostic criteria in the DSM-IV, as well as behavioral, mood, and anxiety checklists to make the diagnosis.

How should we prepare for a mental health assessment?

To ensure that your concerns are adequately addressed, it is important to prepare before meeting with a professional for a mental health evaluation. You can use the following list to help collect your thoughts before the appointment:

What should I be prepared to bring to the assessment?

1. Write down your concerns in detail:

- When did the change in behavior/functioning begin?
- How often do difficult behaviors occur?

- Are the changes specific to one location/time of day?
- Were there medical changes that occurred at the same time as the behavioral changes (increased seizures, infections)?
- Collect details of changes in mood, sleep, appetite, energy (use the chart in the previous section of the module).

2. State concerns in clear, definable terms:

For example, "Cate's sleep has been worse than usual, she seems tired frequently, and she cries daily. These changes have been present for about 2 months. Her seizures and medical concerns have been stable during this time."

3. Check with other caregivers, teachers, friends, family members to get their input.

What changes have they noticed that you might have missed?

4. Gather background materials

Bring medical, psychiatric, psychological, sleep and language, behavioral, vocational, educational reports or data that could assist a professional understanding the individual with Angelman syndrome.

5. Be sure that the caregiver(s) that know the individual the best are present for the evaluation.

6. Be sure to bring information regarding current medications, including doses and frequency:

- Seizure medications.
- Medications used daily to treat other medical concerns.
- Previous medications used to treat behaviors or mental illness.

What will happen after the evaluation/diagnosis of mental illness?

After the initial evaluation and diagnosis of a mental illness, primary treatment strategies should include behavioral interventions.

What are examples of behavioral interventions?

For example, using tools such as redirection, visual schedules, prepping for transitions, relaxation methods, minimizing sensory overload, and other techniques can help reverse symptoms of anxiety. OCD-type behaviors can be addressed by using timers to limit fixations, allowing access to objects at only at certain times of days, and working on transitions away from fixations. Depression symptoms can respond to interventions such as increasing meaningful activities, providing variation in daytime routine, encouraging social interactions, and using a daily schedule to improve motivation and independence. Work with your identified mental health professional or request a referral to a Behavioral Therapist to implement some of the above strategies.

Psychotropic Medication Use in Angelman Syndrome

What if behavioral interventions aren't enough?

When behavioral interventions are not sufficient to address behavioral difficulties, treatment with psychotropic medication may be considered. There have been no randomized-controlled trials of psychotropic medications in Angelman syndrome, so the information provided in this module draws on evidence from studies completed in other populations of persons with developmental delay such as Autistic Disorder, as well as our clinical experience.

What are psychotropic medications?

Psychotropic medications are medicines typically prescribed by a psychiatrist which act primarily on the central nervous system (brain) resulting in changes in mood and behavior. These types of medications include antidepressants, antipsychotics, and stimulant medications, among others.

How do individuals with AS respond to these medications?

In our experience, some individuals with Angelman syndrome appear to be sensitive to psychotropic medications, meaning they often respond to lower doses and can suffer side effects of medications relatively easily. Although all individuals respond differently to medications, a general rule of thumb is to start medications at low doses and increase the dose slowly. If possible, working with a psychiatrist who can monitor response to the medication as well as potential side effects is ideal. The following information will help you understand why certain medications may be suggested to treat an individual's symptoms.

How is anxiety in AS treated?

Treatment of Anxiety:

- Selective Serotonin Reuptake Inhibitors (SSRIs) (i.e. Prozac/fluoxetine, Zoloft/sertraline, Celexa/citalopram) are first line treatment for anxiety and OCD-like symptoms. These medications have the potential to cause behavioral disinhibition (increased agitation/impulsivity),

so monitor individuals closely while initiating treatment.

- Alpha-2 agonists such as Tenex/guanfacine or clonidine can be useful for treatment of sensory overload/anxiety. These medications have the potential to lower blood pressure, so treatment should start at low doses and blood pressure should be monitored closely.
- Buspar/buspirone can at times be beneficial for anxiety if an SSRI or alpha-2 agonist is ineffective.
- Avoid benzodiazepines (i.e. Valium/diazepam, Xanax/alprazolam, Klonopin/clonazepam) for treatment of behaviors, as these medications can cause behavioral disinhibition, sedation, cognitive dulling, and can be habit forming.

How is depression in AS treated?

Treatment of Depression:

- SSRIs (i.e. Prozac/fluoxetine, Zoloft/sertraline, Celexa/citalopram) are first line treatment for depression. These medications have the potential to cause behavioral disinhibition, so monitor individuals closely while initiating treatment.
- Selective Norepinephrine Reuptake Inhibitors (Effexor/venlafaxine, Cymbalta/duloxetine) may be beneficial if treatment with an SSRI fails. Again, monitor for behavioral disinhibition.

How are ADHD symptoms in AS treated?

Treatment of ADHD Symptoms:

- Alpha-2 agonists such as Tenex/guanfacine or clonidine can be useful treatments for ADHD symptoms in Angelman syndrome. These medications have the potential to lower blood pressure, so treatment should start at low doses and blood pressure should be monitored closely.
- Stimulant medications (i.e. Ritalin/methylphenidate, Adderall/amphetamine-dextroamphetamine) should be used with caution, as they may cause increased agitation in some individuals with developmental disabilities. However, these medications have the potential to be helpful for some individuals with Angelman syndrome.
- Strattera/Atomoxetine may also be beneficial for treatment of ADHD symptoms, however should be used with caution as it may cause changes in mood or increased agitation.

Treatment of Aggressive Behaviors in Angelman Syndrome

For some individuals with Angelman syndrome and disruptive behaviors, no defined mental illness may

be identified. However, if the disruptive behaviors are very severe or are not initially responsive to behavioral interventions, psychotropic medications can be beneficial. In some cases these medications can be used as tools to help calm behaviors while behavioral interventions are put into place. It is hoped that over time these medications can be reduced or discontinued once the behavioral interventions have succeeded. However some individuals need to continue on these medications for longer periods of time.

How are disruptive behaviors treated?

- First line medications for treatment of aggression, self-injury, and severe agitation are atypical antipsychotics (Risperdal/risperidone, Abilify/aripiprazole, Seroquel/quetiapine, Zyprexa/olanzapine, Geodon/ziprasidone, Invega/paliperidone). Risperdal and Abilify have been proven effective in treating irritability and aggression in children with Autistic Disorder, and are FDA-approved for treating these symptoms in children ages 5-16 years and 6-17 years respectively. It is appropriate to begin treatment of aggression in an individual with Angelman syndrome with one of these medications. Clinical experience also points to usefulness of Seroquel in individuals with Angelman syndrome.

All atypical antipsychotics carry the risk of side effects. These medications may cause sedation, drooling, weight gain, high blood sugar, lowered seizure threshold, and the risk of extrapyramidal side effects. Extrapyramidal side effects can include muscle stiffness, restlessness, and rarely abnormal movements of the face, mouth, hands, or body. These abnormal movements can be permanent in some rare cases, most often associated with high medication dosages and prolonged use. Individuals with Angelman syndrome may be at increased risk for extrapyramidal side effects due to the presence of other neurologic symptoms such as tremors. When using these medications, individuals should be assessed regularly for the development of any muscle stiffness or abnormal movements. Weight, blood sugar, cholesterol should also be monitored regularly.

- Alpha-2 agonists such as Tenex/guanfacine or clonidine may also be beneficial for treatment of more mild aggression and self-injury in some individuals. Blood pressure should be monitored with these medications.

Case Study: Cate

Case Study: Cate

"Cate" is a 25-year-old individual with Angelman syndrome (deletion positive). Cate lives at home with her mother and father. She suffers from a seizure disorder, requires use of wheelchair to walk long distances, and has a history of bowel and bladder incontinence. Cate does not use a formal communication system, but is able to communicate with some idiosyncratic signs. She also points and leads others to what she wants. She is able to use several word approximations consistently. Cate attends a day program on weekdays, riding the bus to and from her program. In the evenings and on weekends she is home with her parents with no support staff.

Cate has always struggled with impulsivity, especially in social settings. She often will grab at others,

pulling at their hair and clothes. Cate also often bangs on the walls of her home to get her parents attention and to get some of her needs met (such as turning on the television or obtaining a favorite food). These behaviors were manageable by redirection when she was younger, however now as an adult they have become more disruptive. Cate often grabs at people in public, limiting her mother's comfort with taking her out of the home. She also has become disruptive on the bus to day program, grabbing at her aide and at times becoming aggressive while she is strapped in her seat on the bus. Cate's banging behaviors have also become more troublesome to her parents, as she will bang on the wall between their bedrooms at night when she is awake in an attempt to get their attention.

Cate and her mother worked with a behavioral therapist for several months targeting her "banging" and "grabbing" behaviors. Some improvement in the banging was made through practical interventions such as padding the wall. However the impulsive grabbing continued, and Cate was at risk of not being allowed on the bus to her day program.

At this time, Cate was seen for a psychotropic medication evaluation. Following a great deal of discussion, the decision was made to start Cate on a low dose of Seroquel (quetiapine) targeting her impulsive and irritable behaviors. At the initial dose of Seroquel, little changed with Cate's behavior. However, as the medication was slowly increased to three times per day dosing, Cate's behavior began to improve. There was a notable reduction in her behavior on the bus, much to the relief of her aide and the bus driver. Cate was more easily redirectable away from her banging behaviors. She also began to sleep a bit better at night. Unfortunately Cate did experience some sedation with this medication, which limited increasing the dose further. However, over time she was able to tolerate a dose that was helpful with her behavior without being overly sedating.

Conclusion

Individuals with Angelman syndrome are at risk of the development of mental illness, just like those of us without developmental disabilities. When severe changes in behavior, mood or functioning occur, mental illness should be considered as a potential cause. In those cases, individuals should be evaluated by a certified mental health practitioner such as a psychologist or a psychiatrist. When mental illness is identified, often there are medications that can be used to help treat these symptoms. Medications for anxiety and depression are often quite effective, and in the rare cases of severe disruptive or aggressive behavior, atypical antipsychotics can often help with these behaviors.