



Gastrointestinal induced behavioral disturbances in children with autism spectrum disorder

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Abstract

I present an 11-year-old Caucasian male with a past history of Autism Spectrum Disorder and chronic constipation with overflow incontinence admitted to an inpatient psychiatric unit for worsening agitation. This case describes a correlation between effective constipation management and subsequent reduction in agitation. According to current literature review, no similar pediatric case has described this relationship in clinical practice.

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Introduction

Autism Spectrum Disorders (ASD) are common among children in the United States and as many as 1 in 59 children age 8 has been diagnosed with ASD [1,2]. Many have associated Gastrointestinal (GI) complaints and symptoms [3]. Agitation secondary to GI complaints has been acknowledged, but there is little high quality research to guide clinical assessment and treatment, especially in the pediatric population [4,5]. These behavioral disruptions are currently managed with acute emergency room visits, inpatient psychiatric admissions and/or pharmacologic interventions, which may be unnecessary if routine screening and prophylactic treatment for GI ailments were well established amongst pediatric and primary care providers.

Case presentation

C.D. was an 11-year-old Caucasian male with a past medical history significant for Post-Traumatic Stress Disorder, Autism Spectrum Disorder, other specified Depressive Disorder, moderate Intellectual Disability and a history of chronic constipation. He was referred to our inpatient Child Diagnostic Unit (CDU) from his outpatient mental health provider due to worsening aggression in multiple social domains. The CDU is a 30-day inpatient unit, which uses a comprehensive and interdisciplinary approach to clarifying diagnoses in children with complex comorbid mental health, developmental and medical issues. It tends to focus on management of more complicated cases that have failed other traditional methods of treatment including some acute and residential psychiatric hospitalizations.



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On admission, C.D.'s labs were unremarkable with the exception of an elevated Prolactin level (87.3 ng/mL), likely due to being prescribed Risperidone 4 mg daily. He was also taking Clonidine 0.05 mg in the morning, 0.05 mg at noon and 0.2 mg at bedtime along with Polyethylene glycol 17 grams daily at the time of admission. His physical examination was normal, with no abdominal distention, tenderness or retained feces on palpation. He was largely non-communicative verbally. His initial transition to the unit was with intermittent behavioral outbursts, including yelling and slamming doors. He was allowed several days to settle into the milieu, and his behaviors decreased spontaneously after a few days. Due to a decrease in inappropriate behavior and allowance for more accurate diagnostic workup, a taper of C.D.'s home psychotropic medications, Clonidine and Risperidone were initiated. Non-psychotropic medications were continued.

By day 4 of admission, staff noted that he was more restless with longer, more intense meltdowns. He began pacing the unit referring to himself as "trash" and making statements like "I'm scared, I don't want to get hurt." An abdominal X-ray was ordered which revealed a "large fecal burden in the sigmoid and rectum." Docusate sodium 100 mg by mouth and Sodium phosphate enema 10 mg rectally was administered on the fifth day and a Bowel Movement (BM) was achieved. The following day, C.D. was noted to be "happy," "smiling" and "hugging and trying to give affection to staff." C.D. was concurrently being tapered from Risperidone and Clonidine and he was completely medication free by day 12 of his admission. He continued to struggle with constipation and required another enema on the ninth day. After only a moderate stool, he began to develop another exacerbation in aggressive behaviors at which point Aripiprazole 10mg daily was started to manage these behaviors. Staff described him as more restless and aggressive. He was reported to yell, pinch and kick staff. His behaviors again stabilized after a large bowel movement induced by a 10 mg Sodium phosphate enema. Unfortunately, his behavioral improvement was short lived and he developed increasing agitation, possibly contributed by Aripiprazole that had been started on the 12th day of his hospitalization. Aripiprazole was subsequently discontinued within the next two days. Quetiapine was then started at a dose of 25 mg twice daily, which showed good efficacy in managing his behavioral issues prior to discharge. Throughout the remainder of his hospitalization, he struggled with constipation and was discharged on a regimen of Polyethylene glycol 17 grams daily. Recommendation was made to follow up with a GI specialist for his constipation.

Discussion

In the United States, ASDs are considered to be the second most common serious developmental disability [6]. Between 9 and 70% of affected individuals have associated GI complaints and symptoms [4]. Some of the reasons for this include sensory processing abnormalities, development of stool withholding, and altered pain responses. Depending on the child's level of impairment (i.e. impaired language skills), symptoms may not be readily apparent to caregivers or health care providers [5].

Agitation and behavioral problems in children with ASDs are commonly managed with acute emergency room assessment, inpatient psychiatric admissions and/or pharmacologic interventions [7,8]. Hospitalization occurs primarily because of externalizing behaviors, i.e hostility or aggression. Siegel et al. reported that aggressive behavior is one of "the strongest predictors of psychiatric hospitalization [8]." GI complaints have

been acknowledged to be one of the etiological factors in agitation in individuals with developmental disorders [3]. I performed a literature review utilizing PubMed and OVID and the key words case report, constipation, children, agitation, ASD, and gastrointestinal disorder. Per my review, no similar pediatric clinical cases describe the correlation between effective constipation management and subsequent reduction in agitation.

Additionally, little data exists currently to guide clinical assessment and treatment of constipation in pediatric patients with ASDs [4,5]. In 2008 and 2010, a panel of "28 experts in child psychiatry, developmental pediatrics, epidemiology, medical genetics, immunology, nursing, pediatric allergy, pediatric gastroenterology, pediatric pain, pediatric neurology, pediatric nutrition, and psychology" convened to establish management of GI disorders for individuals with ASDs [4]. High-quality clinical research data was not available and recommendations were instead based on clinical expertise. The panel suggested that an interdisciplinary approach to management might improve overall care for this patient subset [4,5]. For example, the child diagnostic unit uses an interdisciplinary approach that relies on specialists in child psychiatry, psychology, social work, occupational therapy, speech and language, education, and nursing to assess patients.

This case highlights the benefit of a comprehensive evaluation and an interdisciplinary approach in the management of acute behavioral disruptions in children with ASDs. Adequately treating constipation can help improve behavior problems in children with ASDs.

Conclusion

This case highlights the benefit of a comprehensive, interdisciplinary evaluation in the management of acute behavioral disruptions in children with ASD. Integration of both behavioral and medical care is prudent. It would be interesting to assess if the number of acute psychiatric interventions declined with such evaluations and interventions. The medication regimen taper, medication titration, and environmental influences are confounding factors to be considered in this case. Future evidence-based studies might focus on the management of GI disorders in this population subset.

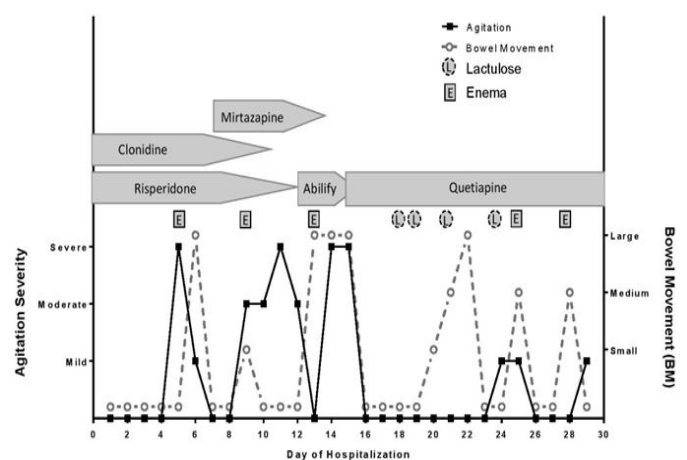


Figure 1: Presence of Agitation and BM during hospitalization

Aggression was rated on a scale of 0-3. 0= No irritability or physical outbursts. 1=Mild i.e. irritability, crying, yelling not directed towards others. 2= Moderate i.e. significant verbal and/or physical aggression not requiring PRN medication. 3= severe i.e. requiring PRN medication for unsafe behaviors. Staff assessed daily BM and rated quantity as none, small, medium or large. BM= Bowel Movement; Abilify= Aripiprazole

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