Journal of Child & Adolescent Behavior

Editorial Open Access

Social Cognition and Communication in Children with Autism Spectrum Disorders

Robyn Bella*

Department of Public Health, College of Medicine and Health Sciences, Arba Minch University, Arba Minch, Ethiopia

Abstract

Neurodevelopmental disorders known as autism spectrum disorders (ASDs) cause difficulties with social cognition and communication. Additionally, children with ASD exhibit typical restricted, stereotypical, and repetitive behaviors. Children with ASD may also exhibit other associated symptoms, such as hypersensitivity or hyposensitivity to various external stimuli like touch and sound, in addition to the core symptoms. In addition, some children with ASD may be anxious in unfamiliar situations and take longer to adjust, necessitating sedation during medical procedures. Seo and co., Diagnostic and therapeutic procedures like MRI, dental procedures, minimally invasive procedures, and electroencephalograms frequently necessitate sedation. Sedation may also be necessary for managing aggressive and self-injurious behavior in the intensive care unit and for mechanical ventilation.

Keywords: Neurodevelopmental disorders; Autism

Introduction

The prevalence of ASD in the United States is approximately 18.5 per 1,000 children, or one in 54, but it can reach 31.4 per 1,000 in states like New Jersey. Boys are 4.3 times more likely to be diagnosed with ASD by the age of eight, and prevalence has steadily increased over the past three decades. Although the etiology of this increase is not completely understood, it has result In particular, children with this condition are more likely to use both routine and emergency care overall and to be seen for longer periods of time. While hospitalizations are unpleasant for all children, they are especially challenging for those with ASD. Compared to their neurotypical peers, children with this condition are more sensitive to the tactile, auditory, and olfactory stimulation, as well as the visual aspects of their environment. Needle sticks for laboratory work, alarms from equipment, hospital odors, and fluorescent lights are just a few examples of the difficulties that the hospital environment presents to children with sensory differences. In addition, children with ASD benefit from routines, where they can anticipate daily consistency in their environment and activities. Continuity of care with the same providers throughout the hospital experience is advantageous because children with ASD may not adapt as readily to interactions with new individuals.

Pre- and postoperative assessment may be challenging in this population, necessitating providers to spend more time with each child, as children with ASD are more likely to be under-responsive to pain medication and frequently incapable of communicating about their pain. However, health care providers frequently report feeling uneasy adapting their practice for children with ASD, particularly when it comes to the sensory aspects of care. Changing clinical environments and procedures is essential for ensuring that children with neurodevelopmental differences have equal access to healthcare. In order to cater to the individual requirements of ASD children and their families, champions are needed at each health care facility. Pediatric dentistry is one of the clinical specialties that has been most successful in accommodating children with ASD. The solutions developed in dentistry can be easily translated to other disciplines. This is especially true during hospitalizations for procedures, where children with ASD experience a heightened rate of anxiety compared to neurotypical peers. In a systematic review of practices to help children with ASD through general surgery, techniques like increased attention to individual needs and distraction were effective. In addition to these strategies, premedication may be administered to facilitate the transition into anesthesia if it is used. With the identification of children with ASD, staff members can Children with ASD find receiving anesthesia to be particularly challenging due to its high sensory profile. As a result, it is reasonable to develop and implement a program of care adaptations in this clinical area. This review aims to highlight two clinical cases and describe patient-centered accommodations created by an anesthesia resource center for children with ASD in a large urban pediatric hospital [1-5].

Discussion

Midazolam, propofol, ketamine, and dexmedetomidine are common sedatives for children with ASD. According to Krauss & Green (2006), midazolam relieves anxiety associated with invasive procedures. Pershad and team, 2007; Seo and co., 2014; Taghizadeh and others, 2015) In 89% of patients with neurological disorders or behavioral disturbances (such as encephalopathy, autism, or epilepsy), midazolam was found to be effective when administered intravenously (IV) at a dose of 0.1 mg/kg or 0.2–0.3 mg/kg. However, its efficacy in ASD was found to be lower than in other neurologic disorders observed that when undergoing dental procedures, children with ASD required more propofol than children with an intellectual developmental disability.

There hasn't been a lot of research done on the anesthetic requirements for children with ASD undergoing MRI. Due to their increased anxiety and difficulties communicating, autistic children have a greater difficulty undergoing an MRI. It has been demonstrated that greater doses of dexmedetomidine (>2 mcg/kg for induction) are required for sedation during imaging, likely due to the need for complete immobility to produce high-quality images.

***Corresponding author:** Robyn bella, Department of Public Health, College of Medicine and Health Sciences, Arba Minch University, Arba Minch, Ethiopia, E-mail: bellaroby@edu.et

Received: 04-Feb-2023, Manuscript No: jcalb-23-88783; **Editor assigned:** 06-Feb-2023, Pre-QC No: jcalb-23-88783 (PQ); **Reviewed:** 20-Feb-2023, QC No: jcalb-23-88783; **Revised:** 21-Feb-2023, Manuscript No: jcalb-23-88783 (R); **Published:** 28-Feb-2023, DOI: 10.4172/2375-4494.1000491

Citation: Bella R (2023) Social Cognition and Communication in Children with Autism Spectrum Disorders. J Child Adolesc Behav 11: 491.

Ketamine (50.8%) and midazolam (50.8%) were the most frequently used sedatives in children with autism. Brown and others Dexmedetomidine has only been used in a small number of published studies to treat ASD in children. Lubisch and team observed that children with ASD and other neurobehavioral disorders could be effectively sedated for MRI/EEG with or without dexmedetomidine. Bradycardia, hypotension, and adverse respiratory events occurred in seven patients who experienced complications.

With buccal midazolam, intranasal dexmedetomidine has been tried in autistic children undergoing CT imaging and auditory brainstem response. When compared to intranasal dexmedetomidine alone, the success rate of sedation was higher when buccal midazolam was combined with intranasal dexmedetomidine.

Ahmed and co. found that although bolus doses were comparable to those of typically developed controls, patients with ASD required lower dexmedetomidine infusion rates for sedation. ASD and 107 controls with typical development were given 2 mcg/kg of dexmedetomidine in a 10-minute bolus and 1 mcg/kg/hour infusion. The ASD group required a lower infusion rate of dexmedetomidine (0.74 mcg/kg 0.05 vs 0.89 mcg/kg 0.03, $p = 0.05$), despite the fact that both groups required the same bolus dose of dexmedetomidine (2.6 mcg/kg 0.1 versus 2.4 mcg/kg 0.1, $p = 0.29$). Ross and others, however, when using fentanyl and pentobarbital for sedation for MRI, there was no difference in the need for sedatives between children with ASD and controls. There were no age-matched controls in either of these studies. However, there is a lack of data comparing the requirements for sedatives in children with ASD and those without ASD.

Variations in genetic heterogeneity, abnormal neurodevelopment, deviations in neural connectivity, abnormalities in neurotransmitter pathways, and excitation-inhibition imbalance also have an impact on a number of sedative medications. Sedative and treatment medications may also interact with one another, resulting in different dose requirements. We believe that the dose requirements that have been reported vary with respect to age, varying sedation protocols, severity of ASD, other ongoing medications, and co-morbid disorders, despite the fact that numerous studies have been conducted examining the use of sedative drugs [6-10].

Conclusion

As part of a project on neuroimaging of ASD children, we noticed that the ASD group required more anesthetic drugs to induce sedation than children with other neurological disorders. As a result, we hypothesized that children with ASD require more sedatives. Comparing the sedative requirements of these two groups of children was the primary objective of the study. The comparison of the two groups' hemodynamic parameters and the effect of pre-existing medications on the required dose of sedatives were the study's secondary objectives.

References

1. Laura D (2018) First vasopressin type 2 receptor antagonist Kunitz toxins: pharmacodynamics study and structure-activity relationships. Biochemistry, Molecular Biology. Paris-Saclay University.
2. Chippaux JP (2001) the Serpents of West and Central Africa, IRD Editions Paris 292.
3. Gilles Ohanessian La (2008) mass spectrometry for chemical and biological analysis. X-ENS-ESPCI-UPS days.
4. Rodrigo G Stabeli, Rodrigo Simoes-Silva, Anderson M Kayano, Gizeli S Gimenez, Andrea A Moura, et al. (2020) Purification of phospholipases A2 from American Snake Venoms.
5. Tu AT (1977) Venom chemistry and molecular biology. New York: John WileY & Sons 560.
6. Pimentel D (1991) Global warming, population growth and natural resources for food production. Soc Nat Resour 4:347-63
7. Falkenmark M, Widstrand C (1992) Population and water resources: a delicate balance. Popul Bull 47: 1-36.
8. McMichael AJ (2001) Impact of climatic and other environmental changes on food production and population health in the coming decades. Proc Nutr Soc 60: 195-201.
9. Ali M, Hidayatullah TA, Alimuddin Z, Sabrina Y (2013) Sequence Diversity of pfmdr1 and Sequence Conserve of pldh in Plasmodium falciparum from Indonesia: Its implications on Designing a Novel Antimalarial Drug with Less Prone to Resistance. Iran J Parasitol 8: 522-529.
10. Gupta S (2012) Profile of Anthony J. McMichael. Proc Natl Acad Sci 109: 6787-6799.