NEUROPSYCHOLOGICAL PROFILE ASSOCIATED WITH PSYCHOGENIC NONEPILEPTIC SEIZURES, AUTISM, AND COMORBID NEURODEVELOPMENTAL CONDITIONS

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OBJECTIVE

There is a dearth of data related to psychogenic nonepileptic seizures (PNES) in individuals with autism spectrum disorder (ASD). A neuropsychological case study was completed involving ASD and PNES to improve our understanding of brain behavior relationships and expand our clinical reach within this population.

METHOD

A 9-year-old male with ASD, comorbid mild intellectual disability, attention-deficit hyperactivity disorder, and oppositional-defiant disorder was evaluated. He exhibited seizure-like episodes, involving staring, tremor, shaking, confusion, and prolonged memory lapses. Prior EEG was consistent with epileptiform focus in the right parasagittal region. Repeat EEG, brain MRI, and 3-day continuous EEG (cEEG) were unremarkable. Clinical episodes during cEEG had no EEG correlate or seizure episodes and included features inconsistent with epileptic seizures, indicating PNES.

RESULTS

Indices assessing aptitude and intellect were broadly dampened (< 1st-5th percentile), aside from visual-spatial processing (77th percentile). His profile revealed difficulties with language (e.g., receptive and expressive vocabulary, fluency, and comprehension), rote and contextual verbal learning and memory, executive functioning (e.g., working memory, inhibition, and switching), processing speed, and fine motor skills (all < 1st-9th percentile). Visual-perception and visual-motor integration were strengths.

Table 1: Selected neuropsychological results

Wechsler Intelligence Scale for Children – Fifth Edition (WISC-V) Primary Indices	**Standard Score**	**Percentile**
Verbal Comprehension	65	1
Visual Spatial	111	77
Fluid Reasoning	76	5
Working Memory	59	<1
Processing Speed	66	1
Full Scale IQ	68	2
NEPSY: A Developmental Neuropsychological Assessment – Second Edition (NEPSY-II)	**Scaled Score**	**Percentile**
Inhibition-Naming Combined	1	<1
Inhibition-Inhibition Combined	3	1
Inhibition-Switching Combined	6	9
Comprehension of Instructions	1	<1
Word Generation Semantic	5	5
Word Generation Initial Letter	5	5
Beery Developmental Test of Visual-Motor Integration – Sixth Edition (VMI)	**Standard**	**Percentile**
Visual-Motor Integration (VMI)	87	19
Child and Adolescent Memory Profile (ChAMP)	**Standard**	**Percentile**
Verbal Memory Index	55	0.1
Screening Index	51	0.1
Grooved Pegboard	***z*-score**	**Percentile**
Dominant hand	-3.0	<1
Non-dominant hand	-3.24	<1

CONCLUSIONS

Given combined neurodevelopmental diagnoses, neuropsychological challenges were expected. The visuospatial strength was consistent with literature findings that some with ASD display enhanced visual-perception. Because seizure episodes were identified as non-epileptic, while behaviorally concerning, these events were not likely contributing to the neurocognitive presentation. There is need for future studies to examine the neuropsychological profiles and brain-behavior relationships of individuals with PNES and ASD.

SELECTED REFERENCES

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