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DIFFERENTIAL CLINICAL INDICATORS IN CHILDREN WITH ASPERGER'S AND KANNER'S SYNDROMES

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Abstract Autism spectrum disorder (ASD) encompasses a wide range of neurodevelopmental syndromes, most notably Asperger's syndrome (AS) and Kanner's syndrome (KS). Despite overlapping characteristics, key clinical differences exist between these syndromes. This study investigates differential clinical indicators in 240 children aged 3–11 years, categorized into AS and KS groups. Emphasis was placed on speech development, cognitive functioning, comorbidity profiles, and social behaviors. The results support the necessity for a refined diagnostic approach and tailored therapeutic strategies.

Keywords*: autism spectrum disorder, Asperger's syndrome, Kanner's syndrome, differential diagnosis, children, neurodevelopment.*

Introduction. Autism Spectrum Disorder (ASD) refers to a heterogeneous group of neurodevelopmental conditions characterized by difficulties in social communication, restricted interests, and repetitive behaviors. The global prevalence of ASD has increased significantly over the past two decades, currently estimated at 1 in 100 children worldwide [1]. Among the most recognized clinical subtypes of ASD are Kanner's Syndrome (KS), also referred to as classic autism or infantile autism, and Asperger's Syndrome (AS), which is considered a higher-functioning variant of ASD [2,3].

Although AS and KS share core autistic features, they differ significantly in terms of developmental milestones, intellectual functioning, language abilities, and social behaviors. KS typically manifests before age 3 with severe speech delay, global cognitive deficits, pronounced social withdrawal, and stereotypic behavior patterns [4]. In contrast, AS is usually identified later, around 5–6 years of age, and is marked by preserved or even advanced vocabulary, average to above-average intelligence, yet profound deficits in pragmatic communication, empathy, and social reciprocity [5,6]. These distinctions are clinically relevant, as they influence not only diagnostic precision but also the choice of educational, psychological, and medical interventions.

A challenge persists in differentiating AS from KS, especially in early childhood, where overlapping features may confound clinicians [7]. Modern diagnostic systems, including the DSM-5, have merged both syndromes under the umbrella of ASD, which, while improving diagnostic sensitivity, may obscure critical phenotypic distinctions [8]. Recent studies underscore the necessity of maintaining a sub-categorical understanding to tailor treatment plans more effectively and understand neurobiological underpinnings [9,10].

This study aims to provide a comprehensive clinical comparison between AS and KS in children aged 3 to 11 years, analyzing multiple domains including language development, cognitive function, behavioral symptoms, and comorbid neurological conditions. A total of 240 children were assessed using standardized diagnostic instruments to identify statistically significant clinical differentials. Our hypothesis posits that children with KS will exhibit more profound developmental impairments and neurological comorbidities, while children with AS will demonstrate higher verbal and intellectual performance but more pronounced social communication difficulties.

Results

Table 1.

Demographic Distribution

Age (years)	AS Group (n=120)	KS Group (n=120)
3–5	42 (35.0%)	56 (46.7%)
6–8	48 (40.0%)	41 (34.2%)
9–11	30 (25.0%)	23 (19.1%)

***Male/Female ratio**: AS – 4:1; KS – 5:1.*

The distribution by age suggests that children with KS are diagnosed earlier than those with AS, which is consistent with clinical observations that KS symptoms manifest more severely and earlier in development. A higher proportion of KS cases fall in the 3–5 year group, while AS cases are more evenly spread across age ranges, indicating possible underdiagnosis or late recognition in AS due to subtler symptoms. The male predominance in both groups reflects established epidemiological trends, supporting a male-to-female ratio of approximately 4–5:1 across ASD subtypes [1,6].

Table 2.

Language and Cognitive Profile

Parameter	AS Group (mean±SD)	KS Group (mean±SD)	*p* value
Age of first words (months)	24.3 ± 3.1	39.5 ± 4.6	<0.001
IQ (WISC-IV full-scale)	98.2 ± 11.7	68.7 ± 14.5	<0.001
Verbal Expression (ADOS-2 score)	3.2 ± 0.8	6.4 ± 1.1	<0.001

The findings confirm significant differences in speech and cognitive development. Children with KS show delayed language acquisition, with the average age of first words well beyond the expected developmental milestone. Their IQ scores fall within the mild intellectual disability range, consistent with previous research [4,10]. In contrast, children with AS demonstrate near-average to average cognitive functioning and significantly earlier speech onset. ADOS-2 scores reflect milder impairments in verbal expression among AS children, emphasizing their relatively preserved linguistic abilities despite pragmatic challenges.

Table 4.

Comorbid Conditions

Condition	AS group (%)	KS Group (%)	p Value
Epilepsy	4.2%	!9.2%	<0.001
Sleep disturbances	30.8%	58.3%	<0.001
ADHD symptoms	52.5%	45.0%	0.28

Comorbidity patterns differ significantly. Children with KS are more prone to epilepsy and sleep disorders, likely due to underlying neurobiological vulnerability and structural abnormalities in the brain [14]. The comparatively low epilepsy rate in AS children is consistent with their higher cognitive functioning. ADHD-like symptoms are common in both groups, though slightly more prevalent in AS, reinforcing the clinical need for comprehensive neuropsychological screening in all ASD subtypes [15].

Discussion. Our findings highlight pronounced distinctions in clinical presentation between AS and KS. Children with KS demonstrated greater severity in language delays, cognitive impairment, and stereotypic behaviors, aligning with previous reports [9,10]. In contrast, children with AS

exhibited relatively preserved cognitive and verbal profiles, but profound social difficulties consistent with prior studies [11–13].

The higher prevalence of epilepsy in KS corroborates literature linking early neurodevelopmental insults with increased seizure risk [14]. The presence of ADHD symptoms in both groups suggests overlapping attentional deficits, although more prominent in AS [15].

These results support the need for tailored diagnostic criteria and intervention strategies targeting syndrome-specific needs.

Conclusion. Differential diagnosis between Asperger's and Kanner's syndromes in ASD is essential for individualized clinical management. Our findings reveal distinct neurocognitive and behavioral markers that can aid clinicians in early and accurate identification of ASD subtypes.

REFERENCES

1. American Psychiatric Association. Diagnostic and Statistical Manual of Mental Disorders, 5th ed. (DSM-5). 2013.
2. Asperger H. Die "autistischen Psychopathen" im Kindesalter. Archiv für Psychiatrie. 1944; 117:76–136.
3. Baron-Cohen S. Mindblindness: An Essay on Autism and Theory of Mind. MIT Press; 1995.
4. Bolton PF et al. Epilepsy in autism. J Child Psychol Psychiatry. 2011; 52(8):892–900.
5. Frith U. Autism: Explaining the Enigma. Blackwell; 2003.
6. Gillberg C. Asperger syndrome and high-functioning autism. Br J Psychiatry. 1998;172:200–209.
7. Kanner L. Autistic disturbances of affective contact. Nervous Child. 1943;2:217–250.
8. Leitner Y. The co-occurrence of autism and attention deficit hyperactivity disorder in children. Curr Opin Psychiatry. 2014; 27(2):91–95.
9. Lord C. et al. Autism spectrum disorders. Neuron. 2000;28(2):355–363.
10. Mandy W, Skuse D. Research review: What is the association between the social-communication element of autism and social anxiety disorder? J Child Psychol Psychiatry. 2008;49(8):797–808.
11. Ozonoff S et al. Evidence-based assessment of autism spectrum disorders. J Clin Child Psychol. 2005;34(3):523–540.
12. Rutter M. Genetic influences and autism. J Autism Dev Disord. 2005; 35(2):225–237.
Tuchman R, Rapin I. Epilepsy in autism. Lancet Neurol. 2002; 1(6):352–358.
13. Volkmar FR, Klin A. Diagnostic issues in Asperger syndrome. Neuropsychol Rev. 2000;10(2):83–100.
14. Wing L, Gould J. Severe impairments of social interaction and associated abnormalities. J Autism Dev Disord. 1979;9(1):11–29.