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EARLY SIGNS AND DIAGNOSTIC ALGORITHMS OF AUTISM SPECTRUM DISORDER IN CHILDREN

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Abstract: Autism Spectrum Disorder (ASD) is a complex neurodevelopmental condition characterized by deficits in social communication and the presence of restricted or repetitive behaviors. Early identification is crucial because timely intervention significantly improves developmental outcomes. This article discusses the early behavioral signs of ASD in infants and young children and outlines modern diagnostic algorithms used in clinical practice. The importance of multidisciplinary assessment and early screening tools is also emphasized.

Introduction

ASD affects millions of children worldwide and typically manifests within the first three years of life. Despite increased awareness, many children remain undiagnosed until school age, leading to delayed intervention. Recognizing early signs and implementing structured diagnostic algorithms are key to improving early detection and providing appropriate support. Early diagnosis relies on a combination of behavioral observation, developmental screening, and specialized assessment tools.

Early Behavioral Signs of Autism

Early signs of ASD vary widely but often appear during infancy. Parents and caregivers are usually the first to notice developmental differences. Common early indicators include:

1. Social and Communication Deficits

Children with ASD may show:

Limited eye contact or reduced response to their name

Lack of social smiling or restricted facial expressions

Delayed speech or unusual vocal patterns

Difficulty in engaging in back-and-forth interactions

Limited use of gestures such as pointing or waving

2. Behavioral and Sensory Patterns

Early repetitive or unusual behaviors include:

Repetitive movements such as hand flapping or rocking

Strong attachment to specific objects

Unusual sensory responses (hypersensitivity or hyposensitivity)

Resistance to changes in routine

3. Developmental Delays

Some children exhibit:

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Delayed motor milestones

Regression of acquired language or social skills

Difficulty with pretend play or imitation

Identifying these signs early allows clinicians to proceed with further screening and evaluation.

Screening Tools for Early Detection

Routine developmental screening is recommended at 9, 18, and 24–30 months of age. Widely used screening tools include:

M-CHAT-R/F (Modified Checklist for Autism in Toddlers)

A parent-report questionnaire used to identify children at risk of ASD. It is highly effective for children aged 16–30 months.

STAT (Screening Tool for Autism in Toddlers)

A play-based assessment focusing on imitation, play, and communication.

CSBS (Communication and Symbolic Behavior Scales)

A tool for identifying early communication deficits associated with ASD.

These tools help determine whether a child should be referred for a comprehensive diagnostic evaluation.

Diagnostic Algorithms in ASD

Diagnostic evaluation involves multiple steps to confirm ASD and assess developmental profiles.

1. Clinical Observation

A trained clinician evaluates:

Social interaction

Communication abilities

Behavior patterns

Sensory responses

2. Standardized Diagnostic Tools

Two gold-standard tools are commonly used:

ADOS-2 (Autism Diagnostic Observation Schedule)

A structured assessment that evaluates communication, social behaviors, and play.

ADI-R (Autism Diagnostic Interview–Revised)

A comprehensive interview with caregivers exploring developmental history and behavioral patterns.

3. Developmental and Cognitive Assessment

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These evaluations determine the child's intellectual, language, and adaptive functioning. Common tools include:

Bayley Scales

Vineland Adaptive Behavior Scales

4. Medical and Neurological Evaluation

Conducted to rule out other conditions such as:

Hearing impairment

Genetic disorders

Metabolic abnormalities

A multidisciplinary team enhances accuracy and ensures a holistic understanding of the child's needs.

Importance of Early Diagnosis

Early identification of ASD leads to:

Improved language and communication skills

Better adaptive behavior outcomes

Reduced severity of symptoms over time

Increased family support and educational planning

Interventions such as Applied Behavior Analysis (ABA), speech therapy, and occupational therapy are most effective when started early.

Conclusion

Early detection of Autism Spectrum Disorder requires awareness of subtle behavioral signs, structured screening, and comprehensive diagnostic algorithms. Modern tools such as M-CHAT-R/F, ADOS-2, and multidisciplinary assessments greatly enhance diagnostic accuracy. Strengthening early screening programs and educating caregivers can help ensure that children receive timely interventions, ultimately improving long-term developmental outcomes.

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