

CLINICAL VARIABILITY OF TIC HYPERKINESIS IN CHILDREN IN AN AGE-RELATED ASPECT AND OPTIMIZATION OF TREATMENT APPROACHES

Samarkand State Medical University

Department of Neurology

Nigina Botirova

Second-year Master's Resident

Keywords: *tic hyperkineses; children; differential diagnosis; evidence-based medicine; YGTSS; treatment.*

INTRODUCTION

Tic hyperkineses is one of the most common forms of movement disorders in childhood and occupies a central position within the spectrum of pediatric movement disorders. Epidemiological studies indicate that transient tics occur in 10–20% of children, whereas chronic tic disorders and Tourette syndrome affect approximately 1–3% of the pediatric population. The clinical significance of tic disorders is determined not only by motor and vocal manifestations but also by the high prevalence of neuropsychiatric comorbidities, including attention-deficit/hyperactivity disorder, obsessive–compulsive disorder, and anxiety disorders, which substantially impair quality of life for patients and their families.

OBJECTIVE

To investigate age-related clinical variability of tic hyperkineses in children, enhance differential diagnostic criteria, and substantiate optimization of treatment strategies from the perspective of evidence-based medicine.

MATERIALS AND METHODS

The study included 70 children aged 4 to 17 years (mean age 9.8 ± 3.6 years) diagnosed with tic hyperkineses. Clinical and neurological assessment involved evaluation of tic phenomenology, degree of voluntary suppressibility, presence of premonitory sensory urges, circadian and stress-induced variability, and the structure of comorbid disorders. Tic severity was assessed using the Yale Global Tic Severity Scale (YGTSS). Differential diagnosis included dystonia, chorea, myoclonus, motor stereotypies, epileptic phenomena, and functional movement disorders.

RESULTS

A pronounced age-dependent variability of tic manifestations was identified. Preschool children predominantly exhibited simple motor tics with a transient course, marked variability, and low YGTSS scores. In primary school-aged children, tic phenomenology became more complex, vocal tics emerged, and diagnostic difficulties were most prominent. Adolescents demonstrated the highest severity of

tic symptoms, a tendency toward chronicity, and a high prevalence of comorbid obsessive–compulsive and affective disorders.

Differential Diagnosis

Differential diagnosis of tic hyperkinesia represents a critical component of clinical evaluation. Tics are characterized by stereotyped, brief movements, voluntary suppressibility, and the presence of premonitory sensory urges, which distinguish them from other hyperkinetic disorders. Unlike dystonia, tic disorders are not associated with sustained abnormal postures or overflow phenomena. Choreic hyperkinesia is distinguished by irregularity, larger amplitude, and the absence of repetitive motor patterns. Myoclonus is characterized by sudden, non-suppressible jerks without sensory precursors. Motor stereotypies typically present with an earlier onset, rhythmic patterns, and a stable course. Particular attention should be paid to differentiating tics from functional movement disorders, which are often marked by abrupt onset, inconsistency of clinical features, and the absence of characteristic tic phenomenology.

Table. Age-related clinical characteristics of tic hyperkinesia (n = 70)

Age group	n (%)	Predominant tic type	Vocal tics	YGTS S (M±SD)	Comorbidities
4–6 years	18 (25.7)	Simple motor	Rare	14.2±4.1	Anxiety reactions
7–11 years	30 (42.9)	Combined	Moderate	21.6±5.3	ADHD, anxiety
12–17 years	22 (31.4)	Motor + vocal	Frequent	27.9±6.0	OCD, affective disorders

Optimization of Treatment from an Evidence-Based Perspective

Current international clinical guidelines emphasize the priority of non-pharmacological interventions for mild to moderate tic disorders. Psychoeducation and cognitive–behavioral therapy, including Habit Reversal Training and Comprehensive Behavioral Intervention for Tics (CBIT), demonstrate the highest level of evidence. Pharmacotherapy is indicated in cases of significant functional impairment. First-line medications include alpha-2 adrenergic agonists (clonidine, guanfacine), particularly in patients with comorbid ADHD. Second-generation antipsychotics (risperidone, aripiprazole) have demonstrated robust efficacy in reducing tic severity. In treatment-resistant cases, tetrabenazine or focal injections of botulinum toxin may be considered.

CONCLUSION

An age-oriented and differential approach to tic hyperkinesis in children, grounded in evidence-based medicine, enhances diagnostic accuracy, prevents overdiagnosis, and optimizes therapeutic strategies.

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