

CLINICAL DIVERSITY OF SEIZURES AND SEIZURE-LIKE MOTOR PHENOMENA IN NEUROLOGICAL DISORDERS: A NARRATIVE LITERATURE REVIEW

Dilshoda Akramova¹, Bobomurod Abdullayev¹

¹ Tashkent State Medical University, Tashkent, Uzbekistan

ABSTRACT

Background: Seizures and seizure-like motor phenomena represent a heterogeneous group of neurological manifestations associated with cerebrovascular, neurodegenerative, inflammatory, metabolic, and structural brain disorders. Similarities in their clinical presentations may complicate differential diagnosis and delay appropriate treatment.

Objective: To describe the clinical diversity, pathophysiological mechanisms, and differential diagnostic characteristics of epileptic seizures and nonepileptic motor phenomena across neurological conditions.

Materials and Methods: A narrative review was conducted using 33 scientific publications addressing cerebrovascular pathology, Parkinson's disease, post-COVID neurological complications, neuroinflammation, and neurological rehabilitation. The literature was analyzed according to clinical manifestations, underlying mechanisms, diagnostic approaches, and implications for patient management.

Results: The literature analysis identified substantial heterogeneity in the clinical manifestations of paroxysmal neurological events. Epileptic seizures may present with focal motor, generalized tonic-clonic, myoclonic, sensory, autonomic, or cognitive manifestations. In contrast, Parkinsonian tremor, dystonia, dyskinesia, and certain types of myoclonus may imitate epileptic activity without an underlying epileptic discharge. Cerebrovascular injury, neuronal network dysfunction, and neuroinflammatory processes represent important pathophysiological contexts for abnormal neurological activity. Clinical history,

electroencephalography, neuroimaging, and laboratory investigations were identified as complementary diagnostic approaches.

Discussion: Clinical similarities between epileptic and nonepileptic paroxysmal events emphasize the importance of comprehensive neurological assessment. The reviewed publications predominantly address broader neurological disorders; therefore, they do not permit quantitative conclusions regarding seizure incidence or diagnostic accuracy.

Conclusion: Recognition of the clinical heterogeneity of seizures and seizure-like motor manifestations is essential for accurate differential diagnosis and individualized management of patients with neurological disorders.

Keywords: epilepsy; seizures; neurological disorders; movement disorders; neuroinflammation; differential diagnosis; electroencephalography.

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