Grand mal seizure

Both terms, “grand mal seizure” and “tonic-clonic seizure,” have been historically used to describe a specific type of epileptic seizure characterized by two distinct phases: the tonic phase and the clonic phase.

However, in recent years, there has been a shift towards using more precise and descriptive terminology in the field of epilepsy. The term “tonic-clonic seizure” is now considered more accurate and is commonly used by healthcare professionals. This term reflects the two main components of the seizure:

Tonic Phase: In this phase, there is a sudden and sustained muscle contraction, leading to stiffness.

Clonic Phase: This phase involves rhythmic, jerking muscle movements.

Using “tonic-clonic seizure” is preferred because it provides a clearer and more specific description of the seizure type. The term “grand mal seizure” is considered outdated and may not convey the detailed information needed for accurate medical communication.

Etiology

1. Primary (Idiopathic) Seizures: No identifiable structural or metabolic cause. Likely genetic predisposition or abnormalities in brain excitability. Often part of generalized epilepsy syndromes. 2. Secondary (Symptomatic) Causes: Secondary causes involve identifiable triggers or underlying conditions that provoke seizures.

Structural Brain Abnormalities: Traumatic brain injury (TBI): Scarring or damage to brain tissue can disrupt electrical activity. Stroke: Ischemia or hemorrhage in the brain can lead to seizures. Brain tumors: Space-occupying lesions may irritate surrounding brain tissue. Cerebral infections: Encephalitis Meningitis Brain abscess Congenital malformations: Disorders such as cortical dysplasia or microcephaly. Metabolic and Systemic Factors: Electrolyte imbalances: Hypoglycemia or hyperglycemia Hyponatremia or hypernatremia Hypocalcemia Hypoxia: Oxygen deprivation to the brain. Toxicity: Alcohol withdrawal or intoxication Drug abuse (e.g., cocaine, amphetamines) Medication side effects or withdrawal (e.g., antiepileptics, benzodiazepines) Uremia or hepatic encephalopathy: Resulting from kidney or liver failure. Infectious and Inflammatory Causes: Neurocysticercosis (common in endemic areas) HIV-associated neurocognitive disorders Autoimmune encephalitis, such as anti-NMDA receptor encephalitis Genetic Conditions: Genetic epilepsies, such as Dravet syndrome or juvenile myoclonic epilepsy. Chromosomal disorders, like Angelman syndrome. 3. Provoked or Reflex Seizures: Fever: Febrile seizures in children (though not true grand mal seizures, these may evolve in certain epilepsy syndromes). Sensory triggers: Flashing lights or loud sounds in photosensitive epilepsy. Sleep deprivation or stress. Acute injury or insult: Post-surgical, hypoxic, or post-infectious. 4. Unknown Causes: In some cases, no definitive cause is identified even after thorough evaluation.