

Epilepsy-1: Definitions and Classifications

Dr. Thomas Kwasa

Definitions-1

1. Seizure- sudden excessive abnormal neuronal discharges from grey matter of the brain:- motor, sensory, autonomic, psychic.
2. Epilepsy – 2 or more recurrent (paroxysmal) unprovoked seizures occurring at least 24 hours apart.
3. Active Epilepsy- 2 or more unprovoked seizures per year-WHO- requires AED therapy.

Definitions-2

- 4. Convulsions- motor seizures with tonic and clonic movements.
- 5. Fits-colloquial term referring to convulsive seizures.
- 6. Status Epilepticus-a single attack lasting for more than 5 minutes or a series of ictal events without full recovery between the events.

Classification of Seizures-1

The International League against Epilepsy (ILAE) classifies seizures according to either clinical presentation or the underlying pathology. There are three major types:

1. Partial seizures
2. Generalized seizures
3. Unclassifiable seizures

Classification-2

Classification depends on:

1. History-from pt. and witnesses.
2. Physical/neurological examination.
3. EEG-+ augmentation
4. Imaging and other investigations

Classification-3

1. Partial

- a. Simple –motor, sensory, autonomic, psychic.
- b. Complex-impairment of consciousness, automatisms, déjà vu, jamais vu etc.
- c. Secondarily Generalized

Classification- 4

2.Generalized

- a. Absence-i. simple, ii. complex
- b. Tonic
- c. Clonic
- d. Myoclonic
- e. Atonic
- f. Tonic clonic

3.Unclassifiable

Classification- 5: Types of Seizures & their Frequencies

- GTCS [primary +secondary] - 35 – 40% each
- Complex partial - 15%
- Generalized Absences - 1 – 2%
- Simple partial - <1%
- Symptomatic - 60% adults 40% of children.
-Kumar & Clark

Classification-6: Clinical Characteristics of Epilepsy seen at KNH

- All parts of the country represented

- Seizure type :
 - Primarily GTCS -54%
 - Unspecified -30%
 - Complex partial - 10%
 - Simple partial - 4%
 - Myoclonic - 1%
 - Infantile spasm -1%

-Kwasa et al -1992

Classification-7: Epilepsy Syndromes

- A. Localization-related(Partial/Focal)
 1. Idiopathic-e.g. Primary reading epilepsy.
 2. Symptomatic-e.g. Chronic progressive epilepsia partialis continua of childhood.
 3. Cryptogenic-presumed to be secondary to some unknown aetiology

Classification-8: Epilepsy Syndromes 2

- B. Generalized Epilepsies

1. Idiopathic- e.g. Benign neonatal familial convulsions.

2. Cryptogenic or symptomatic-e.g. West syndrome.

3. Symptomatic –e.g. Early infantile encephalopathy with suppression bursts on EEG.

Classification-9: Epilepsy Syndromes-3

- C. Epilepsy syndromes undetermined as to whether focal or generalized.
 1. With both focal and generalized seizures-e.g. Severe myoclonic epilepsy in infancy.
 2. Without unequivocal generalized or focal features.

Classification-10: Epilepsy syndromes 4

- D. Special syndromes

Situation-related seizures- e.g. febrile convulsions, or seizures due to metabolic or toxic factors.

Diagnosis-1

- 1. Dx/ DDx of seizures-Temporary Loss Of Consciousness(TLOC).
- 2. Dx of epilepsy/Epilepsy Syndrome
- 3. Investigations

Diagnosis-2

- A. Dx of seizure

1. History- onset, duration, frequency, accompanying symptoms. Detailed description of aura from subject- ictus from subject and witness. Family history. Past medical history. History the single most important aspect of diagnosis.

2. Examination-intraictal, interictal-general, systemic, neurological.

Diagnosis-3

- B. Investigations
 1. Blood tests-e.g. RBS, Electrolytes, LFTs,
 2. Cardiac evaluation-ECG, Tilt-table tests(syncope).
 3. EEG- Routine, augmented- strengths and weaknesses.
 4. Imaging-X-ray, CT Scan, MRI scan, etc.
 5. Video-EEG monitoring.
 6. Ambulatory EEG.
 7. Remote monitoring/smart phone video recording by observer.
 8. Histological, Immunological, and genetic investigations.

Diagnosis-4

- C. Differential Diagnosis of seizures:
 1. Syncope
 2. Psychogenic attacks(PNES)
 3. Sleep disorders
 4. Movement disorders
 5. Transient Ischaemic attacks
 6. Migraine
 7. Transient Global Amnesia

Diagnosis-5

- C. Differential diagnosis-cntd
8. Metabolic/Endocrine disorders.
 9. Tics/ stereotypies.
 10. Self gratification in children
 11. Munchausen syndrome by proxy

Diagnosis-6

- D. Sleep disorders:
 1. Parasomnias eg NREM arousal parasomnias.
 2. Narcolepsy
 3. Cataplexy
 4. Sleep walking
 5. Restless leg syndrome

Diagnosis-7

- E. Movement Disorders:
 1. Dyskinesias e.g. dystonia, chorea, athetosis, etc.
 2. Myoclonus
 3. Parkinsonism
 4. Tics
 5. Tardive dyskinesia- & other drug reactions