

Electroclinical Syndromes: Less Specific

Age-Relationship

Christopher T. Skidmore, MD
Jefferson Comprehensive Epilepsy Center
Thomas Jefferson University

Learning Objectives:

1. Given a set of clinical data the learner will be able to differentiate between mesial and lateral genetic temporal lobe epilepsy
2. Given a set of clinical data the learner will be able to identify a potential case of genetic frontal lobe epilepsy
3. The learner will be able to describe the genetic mutations associated with temporal and frontal lobe epilepsy.
4. The learner will be able to describe the common triggers associated with reflex epilepsy

Topic Outline:

1. Mesial Temporal Lobe Epilepsy
 - a. Clinical Features
 - i. Typical Auras
 1. Emotional
 2. Autonomic
 3. Sensory
 - ii. Seizure Progression
 1. Automatism with or without altered awareness
 2. Rare secondary generalization
 - b. EEG features
 - i. Inter-ictal: anterior temporal lobe
 - ii. Ictal: alpha/theta onset
 - c. Imaging features
 - i. MRI: Hippocampal sclerosis
 - ii. FDG-PET: Temporal lobe hypometabolism
2. Lateral Temporal Lobe Epilepsy

- a. Clinical features
 - i. Varied depending on location of ictal onset
 - 1. Temporal pole/ basal: often appear mesial
 - 2. Lateral/perisylvian: aphasia/auditory auras
 - 3. Posterior Temporal: visual auras
 - ii. Rapid secondary generalization
 - b. EEG features
 - i. Inter-ictal: Mid-posterior temporal
 - ii. Ictal: paroxysmal fast/beta or polymorphic delta onset
 - c. Imaging features
 - i. MRI: Varied lesions including cortical dysplasia, vascular malformations, tumors and trauma
3. Genetic Temporal Lobe Epilepsy
- a. Mesial Temporal Lobe
 - i. Familial form identified
 - ii. Genetic cause unknown
 - b. Lateral Temporal Lobe
 - i. Familial
 - 1. Leucine rich, glioma inactivated 1 (LGI1) gene
 - ii. Sporadic
 - iii. Clinical features of each
4. Frontal Lobe Epilepsy
- a. Brief description of frontal lobe semiology
 - b. Genetic Frontal Lobe Epilepsy
 - i. Common semiology
 - ii. Family history
 - iii. Genetic mutations
5. Reflex Epilepsy
- a. Definition
 - b. Specific Triggers
 - i. Visual Stimuli
 - ii. Reading
 - iii. Cognitive
 - 1. Language
 - 2. Thinking
 - iv. Music
 - v. Eating
 - vi. Miscellaneous
 - c. Pathophysiology



References:

1. Skidmore CT. Adult Focal Epilepsies. Continuum (Minneap Minn). 2016 Feb;22(1 Epilepsy):94-115.
2. Boillot M, Baulac S. Genetic models of focal epilepsies. J Neurosci Methods. 2016 Feb 15;260:132-43.
3. Koepp MJ et al. Reflex seizure, traits, and epilepsies: from physiology to pathology. Lancet Neurol. 2016 Jan;15(1):92-105.
4. Kasteleijn-Nolst Trenite D, Andermann F. Epilepsy with Reflex Seizures. In Wylie's Treatment of Epilepsy: Principles and Practice. Wylie E, ed. Philadelphia PA: Wolters Kluwer, 2015: 293-306.