

Seizures in Neonates

Objectives

- Recall that neonatal seizures are common and that clinical assessment alone is inadequate for diagnosis
- Outline the classification of neonatal seizures and describe the most distinct characteristics of each type
- Summarize the steps in evaluating neonatal seizures including the use of amplitude-integrated electroencephalography (aEEG) and continuous electroencephalography (cEEG) as well as the use of the algorithmic support
- List the most common etiologies of neonatal seizures and discuss the recommended management approaches including the role of antiseizure medications (ASMs)
- State what is known about outcomes related to neonatal seizures and the risks of developing post-neonatal epilepsy

Content Outline

1. Overview of Seizures in Neonates
 - 1.1 Classification of neonatal seizures
 - 1.1.1 Motor, nonmotor, and sequential seizures
 - 1.1.2 Nonepileptic neonatal movements
 - 1.2 Evaluation of neonatal seizures
 - 1.2.1 Neurophysiologic diagnosis
 - 1.2.2 Use of aEEG, cEEG and quantitative EEG (qEEG)
 - 1.3 Etiologies of neonatal seizures
 - 1.3.1 Hypoxic-ischemic encephalopathy (HIE)
 - 1.3.2 Vascular
 - 1.3.3 Infectious
 - 1.3.4 Metabolic derangements
 - 1.3.5 Congenital brain malformations
 - 1.4 Management of neonatal seizures
 - 1.4.1 Antiseizure medication (ASM) use and discontinuation
 - 1.5 Prediction of outcomes of neonatal seizures
 - 1.5.1 Post-neonatal seizures

Reading Material Resources

Module WB2579: Seizures in Neonates is based on the resource listed below. A copy of the resources is included with the module.

Chapter 58 Neonatal Seizures, Keene JC et al., in *Avery's Diseases of the Newborn*, Eleventh Edition (2024), Elsevier, 862-870e5