



Neonatal Seizure Management with Levetiracetam and Phenobarbital

Cynthia Sharpe*

Department of Pediatrics, Benha University, Benha, Egypt

DESCRIPTION

Neonatal seizures are a distressing concern that demands prompt and effective management. Among the various treatment options, Levetiracetam and Phenobarbital have emerged as two prominent choices. In this they delve into the comparison between Levetiracetam and Phenobarbital as treatments for neonatal seizures, exploring their mechanisms, benefits, potential risks, and the considerations involved in selecting the best approach.

Neonatal seizures are characterized by abnormal, uncontrolled electrical activity in the brain, and they can be caused by various factors, including birth injuries, metabolic imbalances, infections, and other underlying medical conditions. Prompt treatment is important to prevent long-term neurological complications and ensure the healthy development of the infant's brain.

Levetiracetam is an antiepileptic drug that has gained attention for its potential effectiveness in treating neonatal seizures. It works by modulating neurotransmitter release and inhibiting abnormal neuronal firing. Levetiracetam offers certain advantages, such as a favorable safety profile, minimal

Phenobarbital has been a traditional treatment for neonatal seizures for decades. It enhances the activity of Gamma-Aminobutyric Acid (GABA), an inhibitory neurotransmitter that helps regulate brain activity. Phenobarbital's advantages include its efficacy in controlling seizures and its availability in both oral and intravenous forms.

Both Levetiracetam and Phenobarbital have demonstrated efficacy in managing neonatal seizures. Studies suggest that Levetiracetam may have comparable seizure control to Phenobarbital, making it a potential alternative for infants who do not respond well to Phenobarbital. Levetiracetam is considered to have a more favorable safety profile than Phenobarbital. Phenobarbital is associated with sedation,

respiratory depression, and potential long-term cognitive effects, whereas Levetiracetam is generally better tolerated.

Levetiracetam has minimal interactions with other medications, reducing the risk of complications in infants who may require multiple treatments. Phenobarbital, on the other hand, has a higher likelihood of interactions, necessitating careful monitoring. Levetiracetam's ease of administration, especially intravenously, can be beneficial in emergency situations or when infants have difficulty swallowing. Phenobarbital is available in both oral and intravenous forms, offering flexibility in administration. Phenobarbital's potential for adverse cognitive effects and neurodevelopmental issues has raised concerns. Levetiracetam's more favorable safety profile may make it a preferable option for long-term treatment.

Levetiracetam and Phenobarbital requires considering the infant's medical history, underlying conditions, potential side effects, and response to treatment. Neonatologists and pediatric neurologists collaborate closely to make informed decisions that prioritize the infant's well-being.

Each infant's response to treatment can vary, making individualized treatment plans prominent. Regular monitoring of seizure activity, as well as neurodevelopmental assessments, helps guide adjustments in medication dosages and treatment strategies.

Parents play an essential role in the care of infants with neonatal seizures. Providing parents with information about treatment options, potential benefits, and risks empowers them to actively participate in their child's care journey.

Neonatal seizures present a significant challenge in the delicate period of infancy. Levetiracetam and Phenobarbital as treatment options requires a thorough understanding of their mechanisms, benefits, and potential risks. While both drugs have shown efficacy in managing neonatal seizures, Levetiracetam's favorable safety profile, minimal drug interactions, and ease of administration have positioned it as an attractive alternative to the traditional choice

Correspondence to: Cynthia Sharpe, Department of Pediatrics, Benha University, Benha, Egypt, E-mail: cynth@q9fi0.com

Received: 19-Jun-2023, Manuscript No. JNB-23-22605; **Editor assigned:** 21-Jun-2023, Pre QC No. JNB-23-22605(PQ); **Reviewed:** 06-Jul-2023, QC No. JNB-23-22605; **Revised:** 13-Jul-2023, Manuscript No. JNB-23-22605(R); **Published:** 21-Jul-2023, DOI: 10.35248/2167-0897.23.12.419.

Citation: Sharpe C (2023) Neonatal Seizure Management with Levetiracetam and Phenobarbital. J Neonatal Biol. 12:419.

Copyright: © 2023 Sharpe C. This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

of Phenobarbital. The ongoing collaboration between medical professionals, the customization of treatment plans, and the support of parents collectively contribute to ensuring the

optimal care and outcomes for these vulnerable infants as they begin their life's journey.