

عنوان مقاله:

Evaluation of Cerebrospinal Fluid and Plasma Amino Acids Levels in Neonates with Refractory Seizures : A Prospective Cohort Study

محل انتشار:

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خلاصه مقاله:

Background: Altered concentrations of cerebrospinal fluid (CSF) and blood amino acids may be related to epilepsy or the severity of the seizure. In the present study, we assessed the concentrations of amino acids in CSF and plasma in neonates with refractory seizures. **Methods:** In this prospective cohort study, ۲۷ neonates aged ۱ to ۵۶ days with refractory seizures were included. Blood and CSF samples were collected from each neonate within ۲۴ hours after receiving ۲nd antiseizure medications. All plasma and CSF samples were sent to the laboratory to measure amino acid concentrations. The associations between CSF and plasma amino acid levels with different variables were evaluated. **Results:** Except for leucine ($P=۰.۱۵$) and isoleucine ($P=۰.۰۷$), the levels of all amino acids were significantly higher in plasma than CSF. Significant associations were observed between types of seizure and plasma citrulline ($P=۰.۰۰۸$) and leucine concentrations ($P=۰.۰۴$). The mean of CSF glutamic acid was also statistically different among neonates with different EEG results ($P=۰.۰۰۲$). **Conclusion:** Our findings indicate that several plasma and CSF amino acids could be candidate biomarkers for neonatal refractory seizures. Further studies with larger sample size are to confirm our findings

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