

NEONATAL EEG: IMPORTANCE AND UTILITY IN DIFFERANTIAL DIAGNOSIS and PROGNOSIS <u>Recep Kamil Kilic¹, Ebru Arhan¹, Ilknur Cankurt¹, Esra Serdaroglu¹, Ercan Demir¹, Tugba Hirfanoglu¹</u>

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INTRODUCTION

The objective of this study was to assess of utility neonatal the electroencephalography (EEG) the in evaluation of differential diagnosis at neonatal age and determine the relationship between seizure semiology and etiological factors.

MATERIALS and METHODS

EEG's Neonatal recorded 2010 January between January and 2022 retrospectively reviewed. were Postconceptional age (Limited to neonatal age), gender, etiology, seizure semiology, neurological condition, cranial ultrasound and cranial magnetic resonance imaging (MRI) were also evaluated for seeking possible relationships between the EEG request, results, and final diagnosis.

Figure 1: 32 W newborn delta brush



Overall 543 neonatal EEG, clinical findings, and demographics were studied comprehensively. 59% of patients were male and the remaining 41% were female. As to gestational age, 52,9% patients were preterm. The most common indication for EEG requests was suspicion of seizure and to predict the degree of HIE (36.6%, 16.9%). Focal motor tonic seizures were the most common type in symptomatic etiologies (p<0,05). Phenobarbital was the common choice of antiseizure medication (%72). %48,75 of EEG records were abnormal. The backround abnormality, asymmetry and specific epileptic discharges especially lateralized hemispheric findings, burst suppression, and focality of positive and negative phase reverses pointed to abnormal cranial MRI and highly related to poor prognosis (p<0,05). **Figure 2: 33 W newborn enchoces frontalis**



RESULTS



Figure 4: Hemisfic asymmetry

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Figure 5: Midline and left hemisferic ictal activity





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Figure 6: 39 W newborn left MCA infarct





CONCLUSION

The recent technological advances in neonatal care have changed the etiological profile of neonatal seizures. Our findings indicate that EEG plays an important role in diagnosis, early inventions, and predicting subsequent neurologic status.

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