

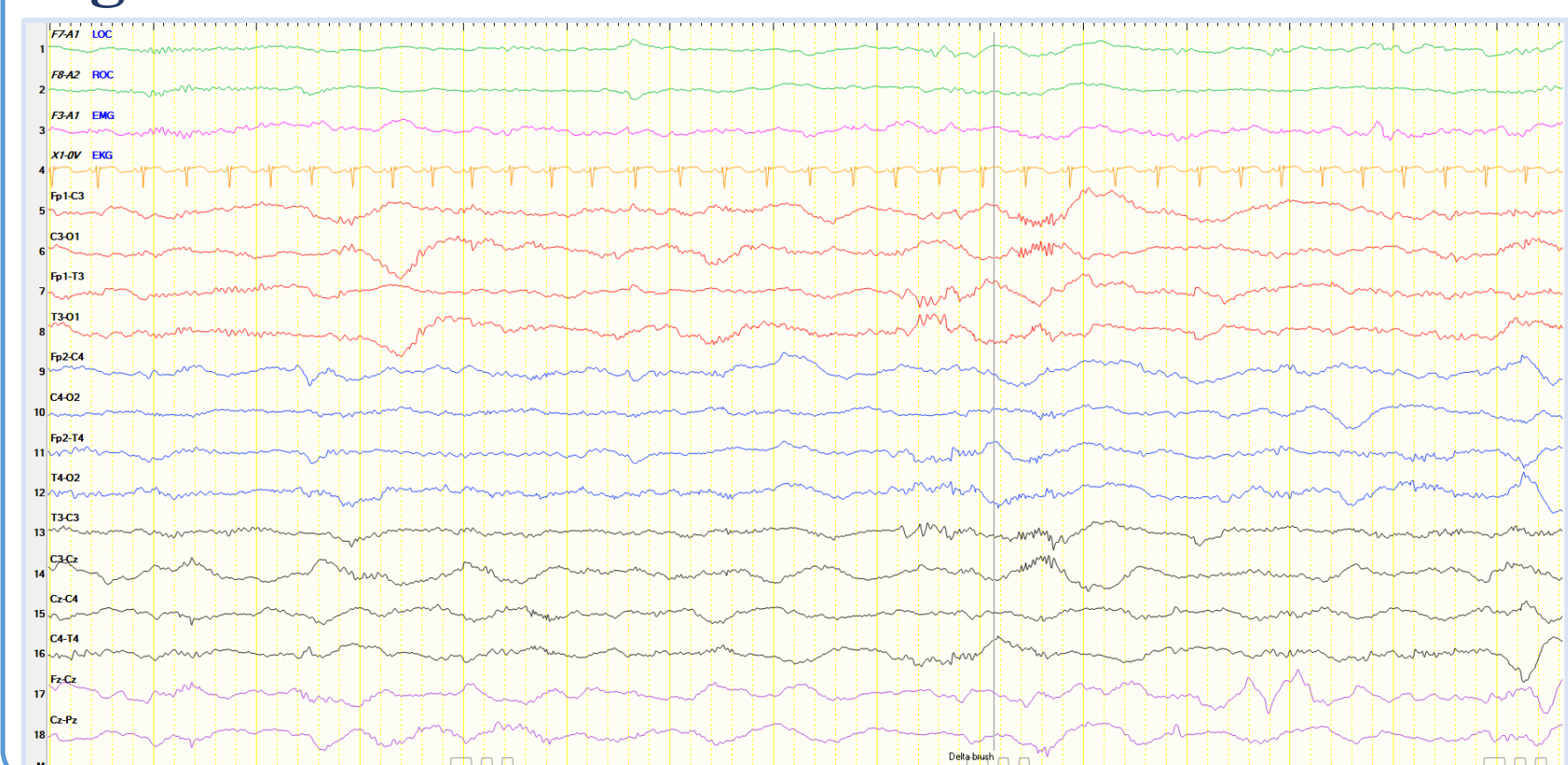
## INTRODUCTION

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

## MATERIALS and METHODS

Neonatal EEG's recorded between January 2010 and January 2022 were retrospectively reviewed. 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



## RESULTS

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 background 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 enchoes frontalis

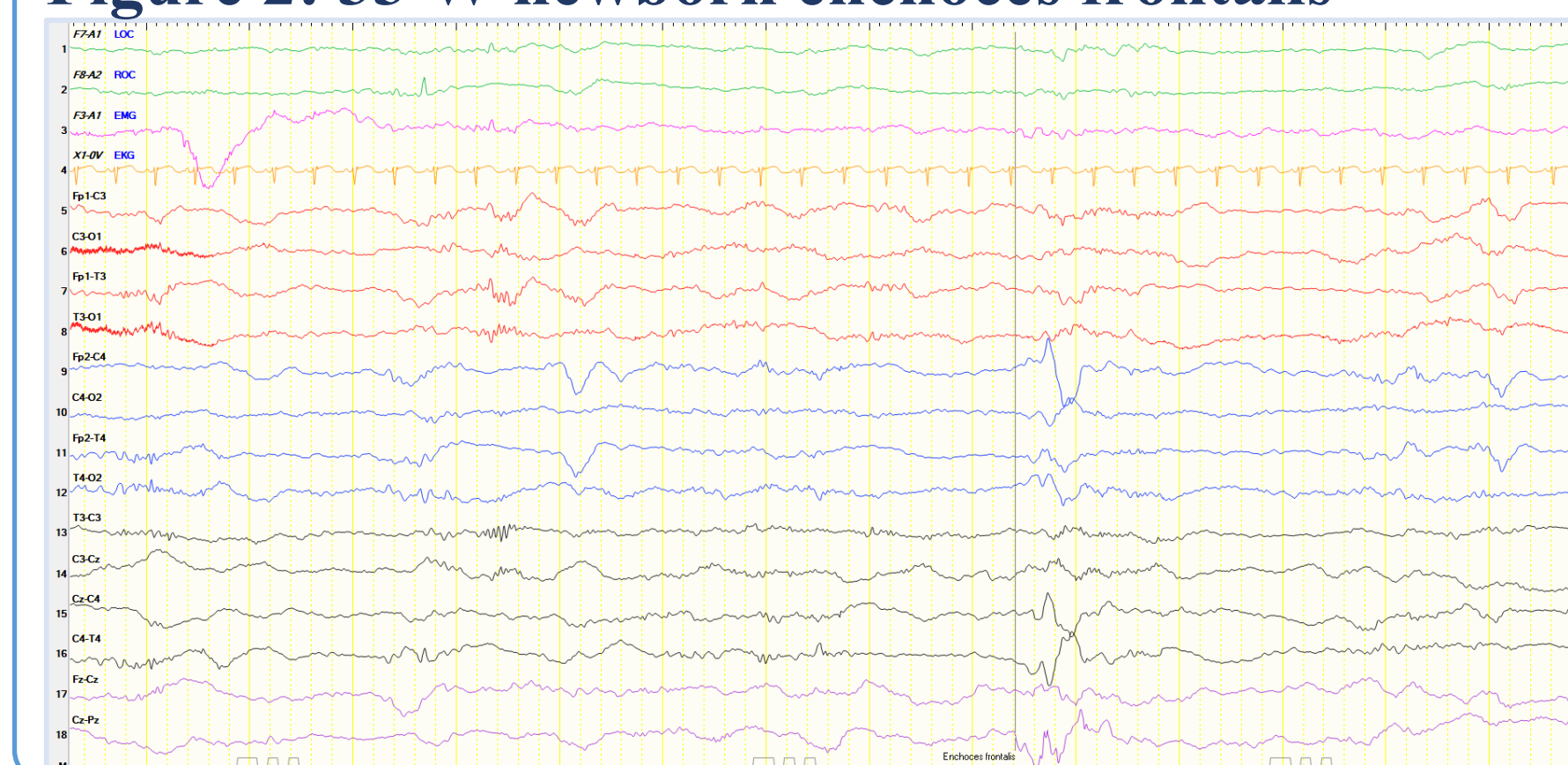


Figure 3: Midline ictal activity



Figure 4: Hemispheric asymmetry

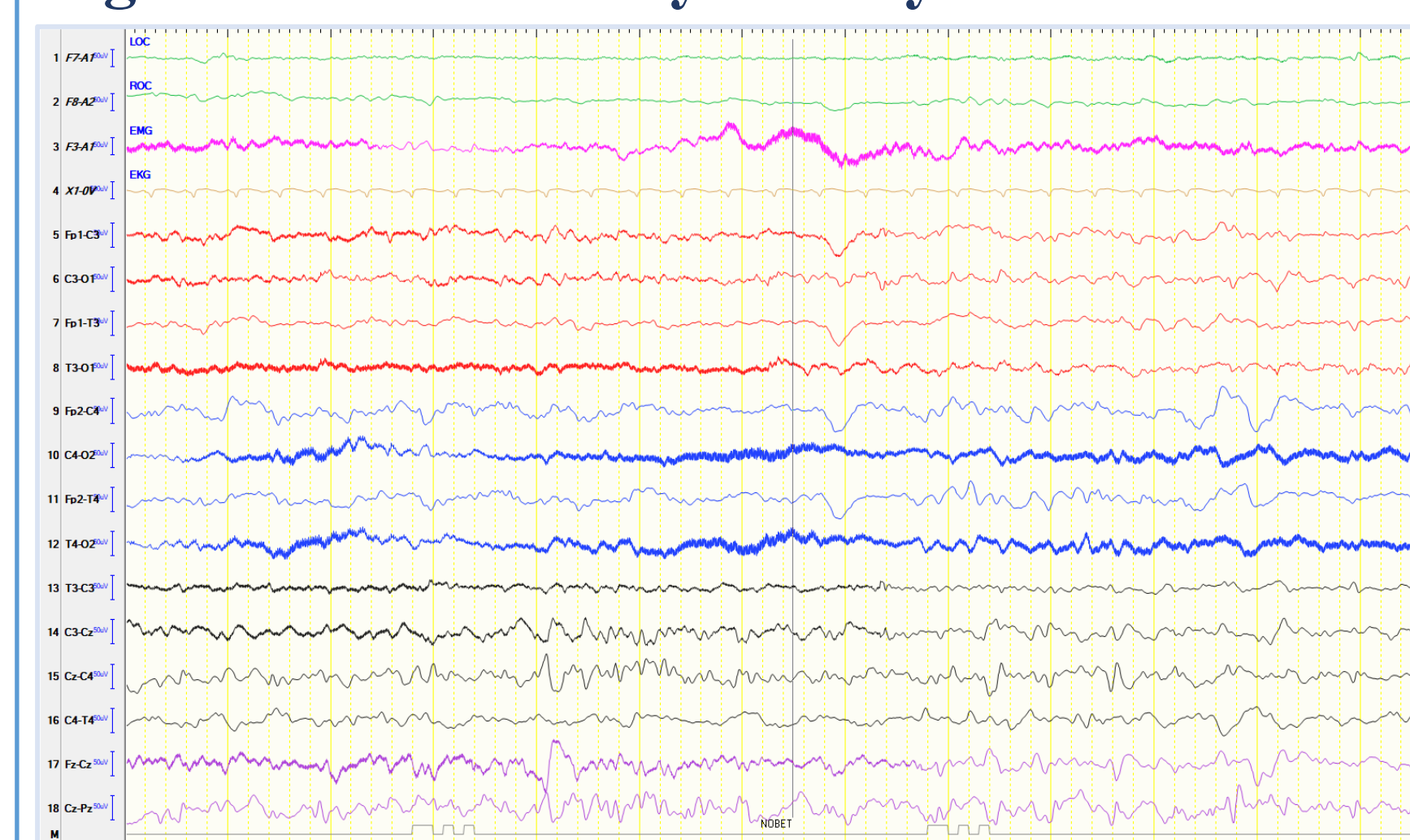


Figure 5: Midline and left hemispheric ictal activity

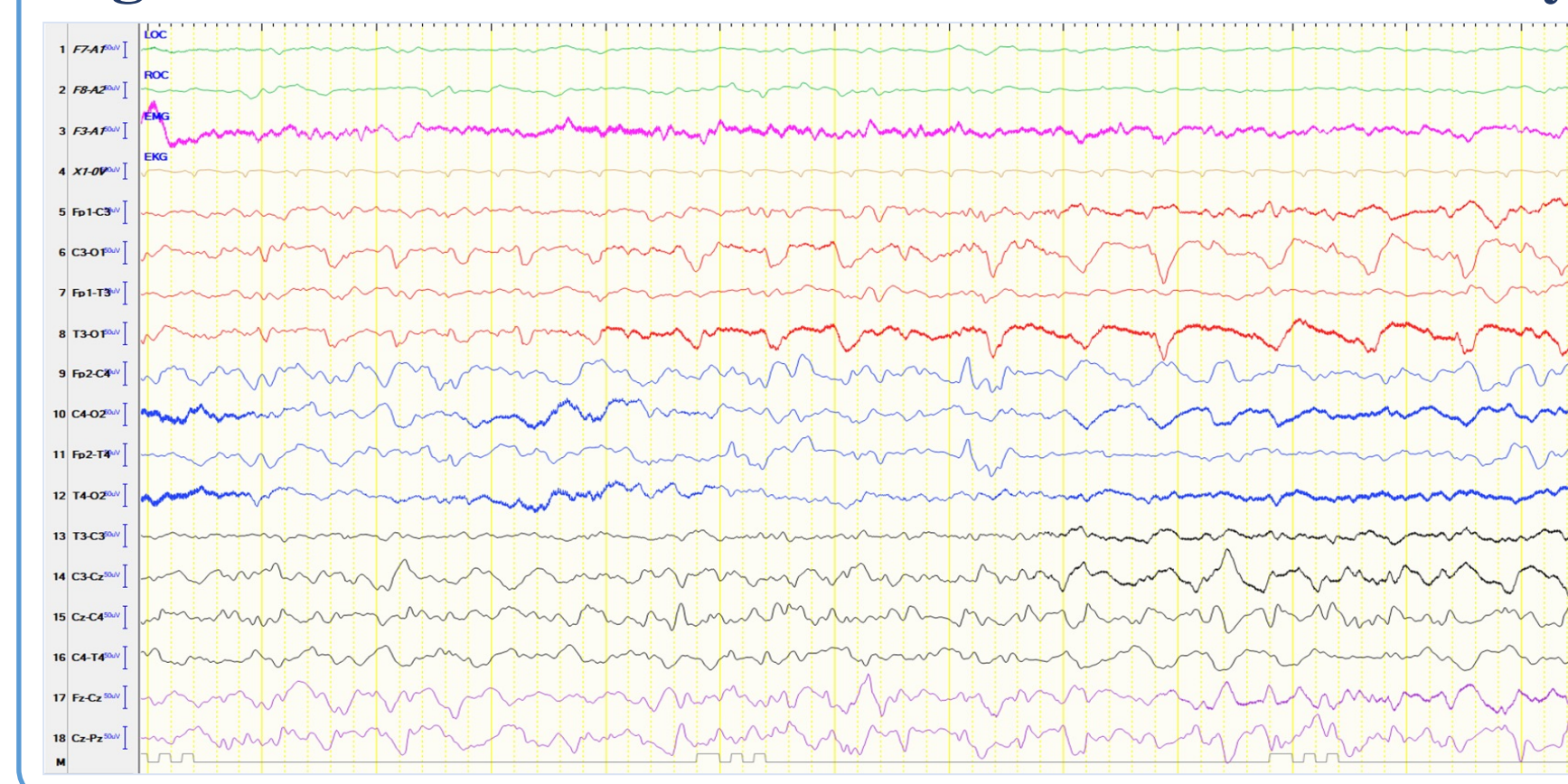
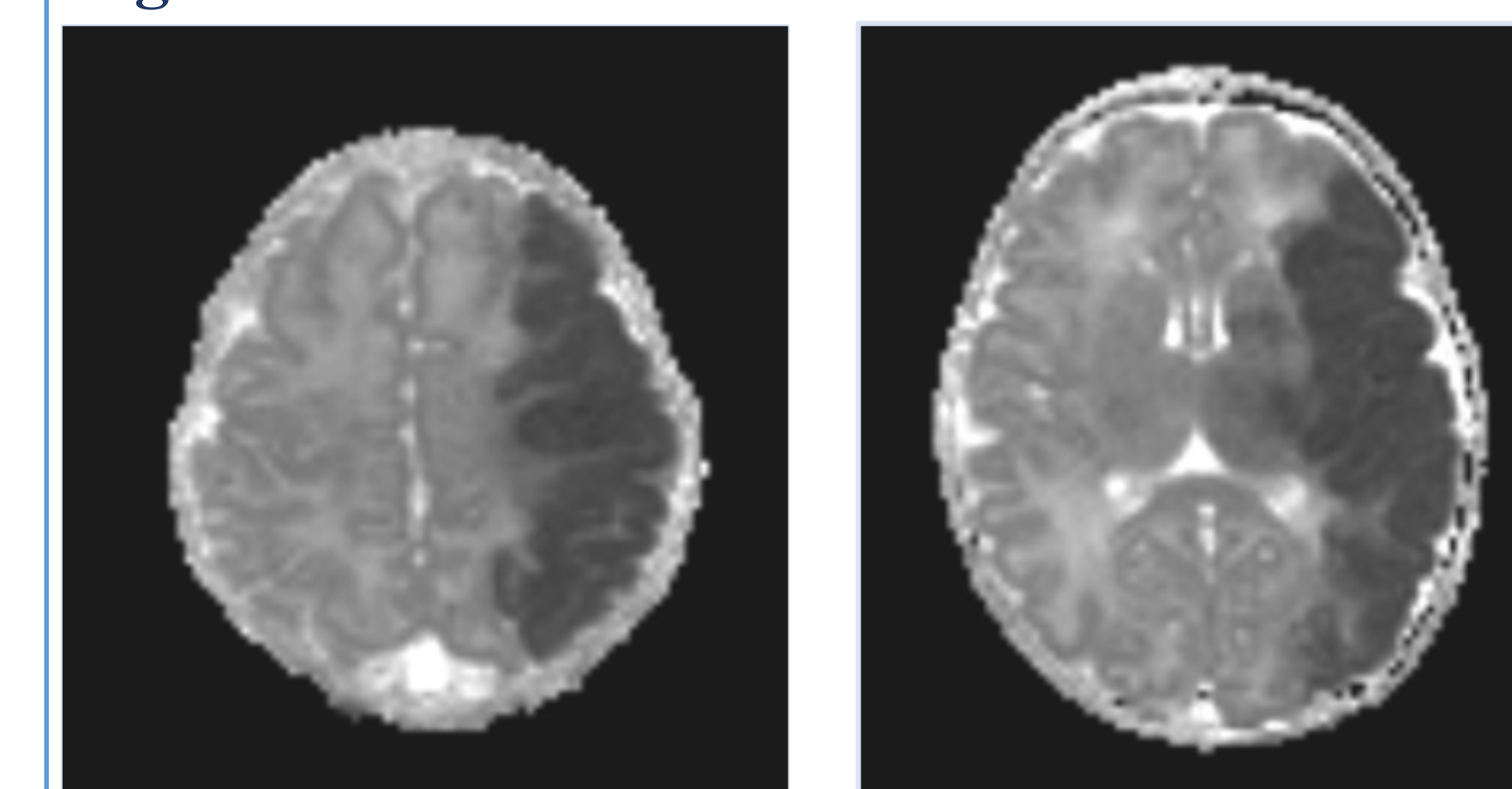


Figure 6: 39 W newborn left MCA infarct



## 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 interventions, and predicting subsequent neurologic status.

## REFERENCES

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