

Partial Prolonged HIE

Case History

- Emergency Cesarean delivery for failure to progress and non-reassuring fetal heart rate
- Born at 37 weeks + 4 days gestation
- Apgar Scores were 2 and 8, at 1 and 5 minutes
- Moderate encephalopathy was noted following delivery, and the infant met the hospital's criteria for therapeutic hypothermia

Procedure

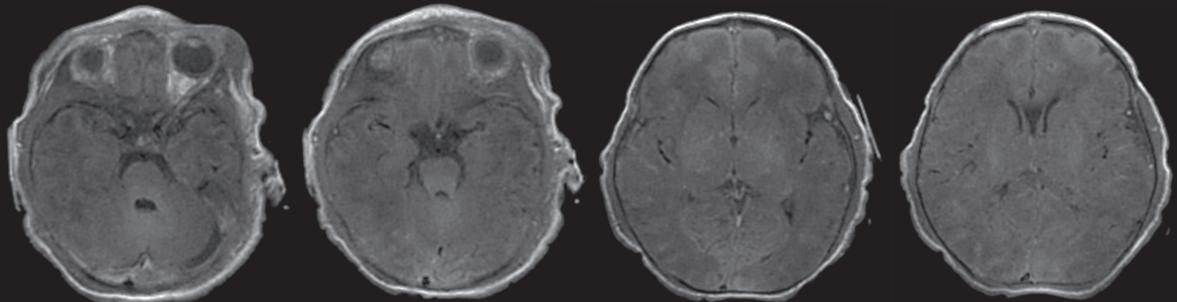
- An unsedated MRI Scan was completed in the NICU using the Embrace[®] Neonatal MRI System on Day of Life 4, after rewarming
- Corrected Gestational Age at time of scan: 38 weeks + 1 day

MRI Sequences

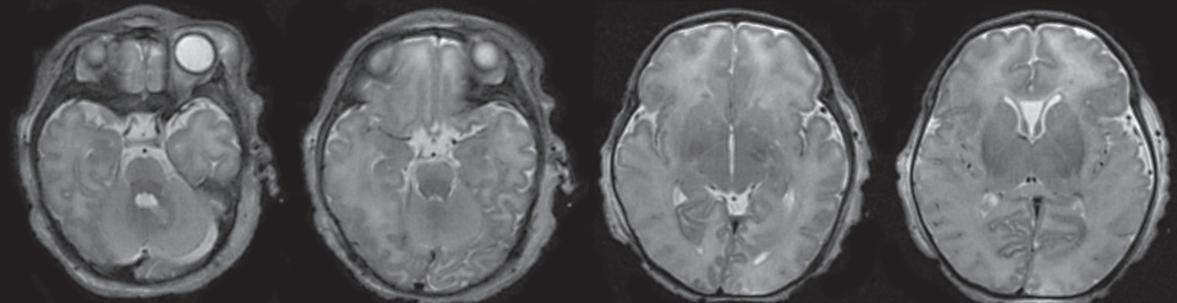
- T1 Axial TE 12.9, TR 600 4.00 mm
- T2 Axial TE 142.7, TR 10276 4.00 mm
- Axial DWI Trace 4.00 mm
- Axial DWI ADC 4.00 mm

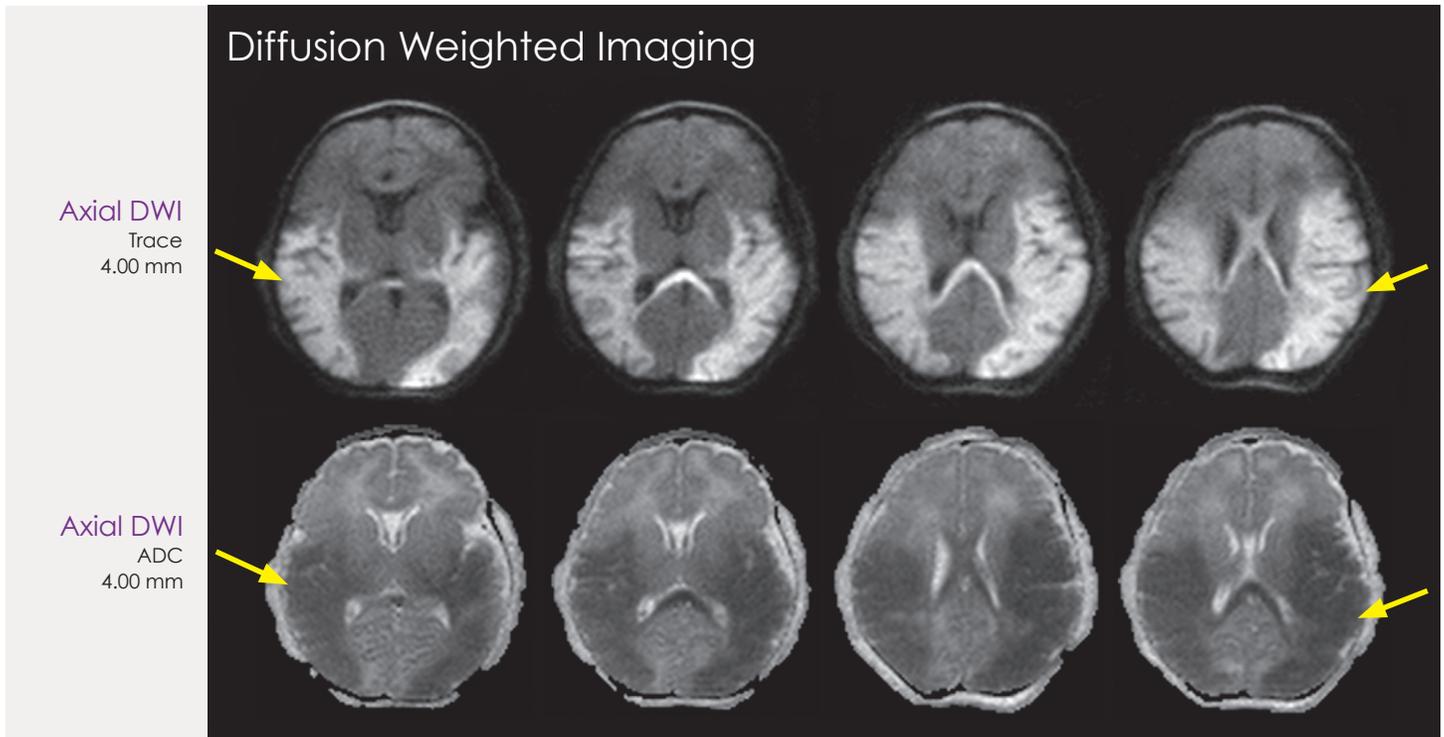
Axial T1 and T2

T1 Axial
TE 12.9, TR 600
4.00 mm



T2 Axial
TE 142.7, TR 10276
4.00 mm





MRI Findings

Findings from the T1 weighted images indicate no structural brain abnormalities. Loss of cortical ribbon and effacement of the ventricular system on T2 weighted images indicate cerebral edema.

The DWI sequence showed symmetrical widespread ischemic brain injury in the occipital and parietal brain regions as well as in the splenium of the corpus callosum. This type of injury can be indicative of partial prolonged HIE but also could be consistent with neonatal hypoglycemia.

Follow-up will include evaluation of possible metabolic causes for the injury.

Conclusion/Summary

In this case, the MRI provided valuable information about an extensive brain injury in the occipital and parietal brain regions, likely related to hypoxic ischemic damage.

Because the injury is primarily located in the posterior regions of the cortex, metabolic causes cannot be ruled out, such as hypoglycemia. This would prompt further investigation into those causes.

This imaging enabled the medical team to classify this infant with a higher risk for developmental disability and visual field problems and who would benefit from early intervention services and visual therapy.

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