

## Extensive Birth Trauma with HIE

### Case History

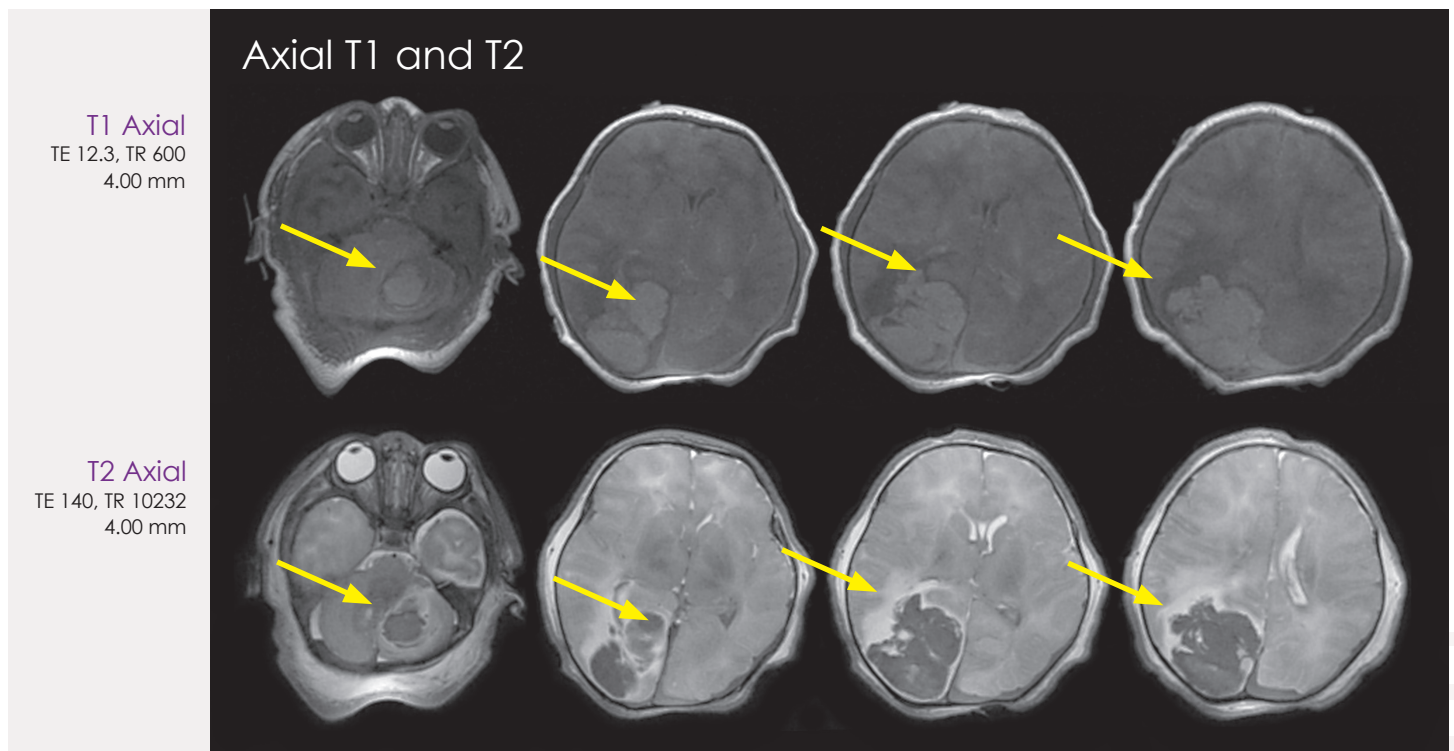
- Emergency Cesarean delivery following failed attempt at assisted vaginal delivery with forceps
- Fetal bradycardia prior to delivery
- Born at 39 weeks + 3 days gestation
- Pregnancy complicated with Pregnancy Induced Hypertension
- Severe encephalopathy was noted following delivery, and the infant met the hospital's criteria for therapeutic hypothermia

### Procedure

- An early MRI was conducted on Day of Life 1, while the infant was still undergoing therapeutic hypothermia to determine the extent of brain injury, using the Embrace<sup>®</sup> Neonatal MRI System.
- No procedural sedation was provided for the MRI.
- Corrected Gestational Age on the day of the scan was: 39 weeks + 4 days

### MRI Sequences

- T1 Axial, TE 12.3, TR 600
- T2 Axial, TE 140, TR 10232
- Axial DWI Expadc map B1000
- Axial DWI Expadc map ADC

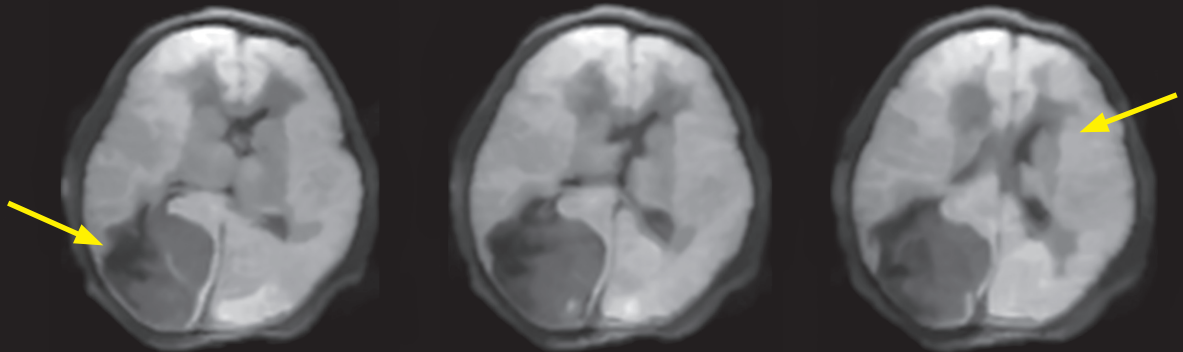


Embrace<sup>®</sup> Neonatal MRI System

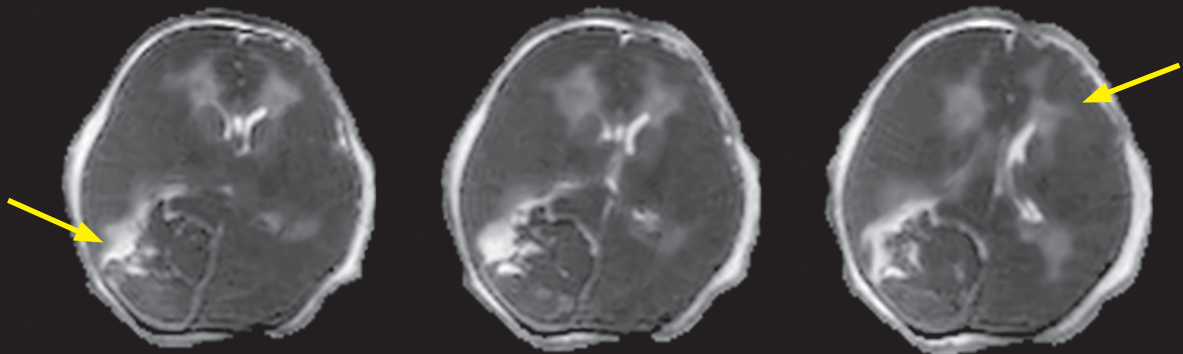
Redefining Neuroimaging *Inside* the NICU

## Diffusion Weighted Imaging

Axial DWI  
Expadc map  
B1000 - filtered  
4.00 mm



Axial DWI  
Expadc map  
ADC - filtered  
4.00 mm



## MRI Findings

Diffuse restricted diffusion seen throughout the cerebral hemispheres suggestive of diffuse hypoxic injury.

Large right parieto-occipital parenchymal hemorrhage with surrounding edema and effacement of the right lateral ventricle.

Left parenchymal cerebellar hemorrhage with surrounding edema and effacement of the fourth ventricle. Difficult to exclude tonsillar herniation on this imaging. Small bilateral subdural hematomas in the parietal-occipital region, left greater than right.

## Conclusion/Summary

In this case, the MRI provided valuable information about extensive trauma to the right parieto-occipital region and the cerebellum as well as extensive hypoxic brain injury as indicated by the restricted diffusion in both hemispheres.

This imaging informed the medical team that this patient would likely not survive without significant neurological sequelae due to these injuries and ultimately discussions to redirect care with the family were undertaken.

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