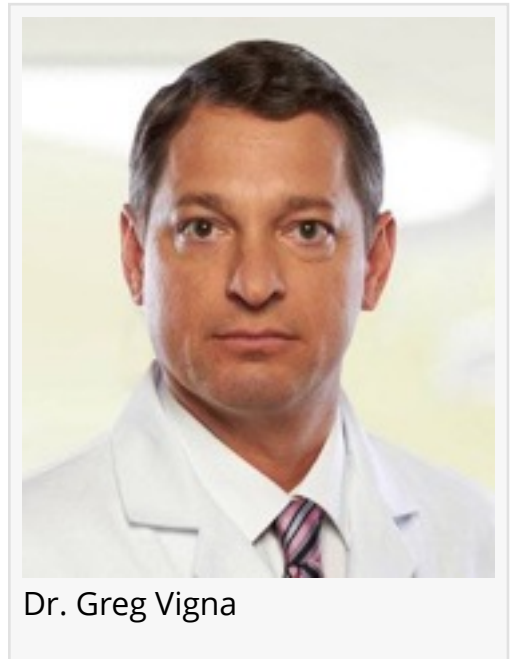


Neonatal Diffusion-Weighted MRI: Prognostic Prediction of Neonatal HIE

Diffusion-weighted MRI can help predict severe neurological outcomes in infants, enabling early diagnosis of cerebral palsy and delays from hypoxic brain injury

SANTA BARBARA , CA, UNITED STATES, December 4, 2024 /EINPresswire.com/ -- "In an attempt to establish cutoff values to predict the occurrence of neurological sequelae, MD and FA measurements in the corpus callosum, thalamus, basal ganglia, corticospinal tract, and frontal white matter have proven to have an excellent ability to predict severe neurological outcomes," states Kenichi Oishi, MD, PhD, The Johns Hopkins University School of Medicine.

Dr. Greg Vigna, Board Certified Physician in PM&R and national birth injury attorney, states, "I have reviewed cases where children who were managed for years with developmental delay, epilepsy, and impairment in motor control were not diagnosed with cerebral palsy despite a complicated delivery. Early diagnosis of cerebral palsy is necessary, and diffusion-weighted MRI is required in babies with normal MRIs as early diagnosis and treatment is required."



Dr. Greg Vigna

“

Diffusion-weighted MRI will be the standard of care for early diagnosis of cerebral palsy as this non-invasive imaging study is becoming an increasingly valid tool.”

Greg Vigna, MD, JD

Dr. Vigna continues, “Diffusion-weighted MRI will be the standard of care for early diagnosis of cerebral palsy as this non-invasive imaging study is becoming an increasingly valid tool to predict babies with hypoxic-ischemic encephalopathy (HIE) who have cerebral palsy and developmental delay caused by hypoxic injury at birth. These are lifetime injuries and accurate, early diagnosis is within reach with current technology advancement using diffusion-weighted MRI.”

What did Dr. Oishi state in “Quantification of Diffusion Magnetic Resonance Imaging for Prognostic Prediction of Neonatal Hypoxic-Ischemic Encephalopathy” published in Dev Neurosci (2024) 46(1):55-68 after review of the literature?:

“Hypoxic-ischemic conditions cause neuronal death, followed by Wallerian degeneration, retrograde degeneration of the distal end of the axon.

These studies demonstrate that neonatal DTI has excellent potential to accurately predict both short- and long-term severe neurological outcomes.

However, the number of HIE neonates included in each study was less than 60, and none of the prediction models have been validated in an external cohort of neonatal HIE; multicenter validation studies with larger neonatal HIE cohorts are essential for the clinical application of DTI as a prognostic predictor.

In addition, there are no studies of milder neurological sequelae that become evident after school age, such as neuropsychiatric symptoms and learning disabilities; further research is needed to determine whether DTI can predict longer-term outcomes.”

Read Dr. Oishi’s article: <https://karger.com/dne/article/46/1/55/843460>

[Dr. Greg Vigna, MD, JD](#), national birth injury attorney, Board Certified Physical Medicine and Rehabilitation, states, “DTI MRI technology can be used clinically as it allows for early identification for babies at risk for severe neurological outcomes. DTI MRI is evolving and can identify babies at risk of motor impairments and developmental delay caused by hypoxic brain injury from a complicated delivery that doesn’t meet the clinical diagnosis of cerebral palsy. These are important injuries and lifetime consequences.”

Read Dr. Vigna’s book, [‘The Mother’s Guide to Birth Injury’](#).

Dr. Vigna is a California and Washington DC lawyer who focuses on neurological injuries caused by medical negligence. He is a Board Certified Physical Medicine and Rehabilitation specialist and a Life Care Planner. [Ben Martin Law Group](#) is a national pharmaceutical injury law firm in Dallas, Texas. The attorneys are product liability and medical malpractice attorneys, and they represent neurological injuries across the country.

Click here to learn more: <https://vignallawgroup.com/practice-areas/birth-injuries/>

Greg Vigna, MD, JD

Vigna Law Group

+1 8178099023

[email us here](#)

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