Developmental Delay: A ‘Mother’s Guide’ to Obtaining Diagnosis After Hypoxic Injury

Early MRI with diffusion imaging is critical after difficult deliveries to diagnose hypoxic brain injury, guide treatment, and predict long-term outcomes

SANTA BARBARA, CA, UNITED STATES, June 10, 2025 /EINPresswire.com/ -- “Early intervention and diagnosis of the cause is medically necessary and appropriate in newborns, toddlers, or children following a difficult delivery where there was a risk of hypoxic brain injury. There are reliable objective MRI predictors of long-term outcomes,” states Greg Vigna, MD, JD, Board Certified Physical Medicine and Rehabilitation.

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>
> *Greg Vigna, MD*

What does Dr. Sheng-Che Hung, MD, PhD, report in “MRI predictors of long-term outcomes of neonatal hypoxic ischemic encephalopathy (HIE): A primer for radiologist” published in The British Institute of Radiology on February 24, 2024?

“Neonatal brain hypoxia and ischemia can occur during the antenatal, intrapartum, or postnatal period, and may result in severe neurological complications, including cerebral palsy, epilepsy, developmental delays, and cognitive impairment.

More sophisticated MRI techniques, including diffusion tensor imaging (DTI) and proton MR spectroscopy, provide quantitative data on the brain’s microstructure and function.

The basal ganglia and thalamus (BGT) pattern is often observed in circumstances that present a sudden disruption of placental perfusion or oxygen supply in the umbilical cord.

The white matter/watershed (WM/WS) pattern typically arises from mild to moderate asphyxia, also known as partial prolonged asphyxia.

Research studies have demonstrated that specific brain injury patterns, as well as MRI scoring systems, can effectively predict unfavorable neurodevelopmental outcomes in infants with HIE.

Predicting long-term neurodevelopmental outcomes (LTNO) based on diffusion imaging...specifically...in different brain structures, have been shown to predict adverse outcomes well.

Proton nuclear magnetic resonance spectroscopy has been shown to offer high sensitivity and specificity in predicting LTNO."

Read Dr. Hung's article: https://academic.oup.com/bjr/article/97/1158/1067/7614088

Dr. Greg Vigna, MD, JD, national birth injury attorney, states, "Families with a baby, toddler, or child with global developmental delay or Level 2 and Level 3 autism require both an MRI and an MRI with diffusion imaging. These have serious implications for future family planning and for guiding early intervention with physical, occupational, and speech therapy."


Dr. Greg Vigna

Dr. Vigna concludes, "The diagnosis of hypoxic brain injury through objective radiologic testing in toddlers and children, particularly those without clinical diagnosis of cerebral palsy, is hugely significant in the litigation of birth injuries caused by negligent deliveries that expose babies to prolonged or severe hypoxia. There is no valid medical justification to delay diagnostic testing in toddlers or children who exhibited red flag warning signs of hypoxic brain damage at birth and now present with global developmental delay or Level 2 or Level 3 autism."

Red flags of hypoxic brain damage or hypoxic ischemic encephalopathy include 1) Neonatal encephalopathy, 2) Seizures, 3) Low APGARS, 4) Emergent C-section, 5) Hypotonia, 6) Acidosis, and 7) Admission to the neonatal intensive care unit (NICU).

Click here to 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 including birth injury. He is Board Certified in Physical Medicine and Rehabilitation. Dr. Vigna co-counsels with Ben Martin Law Group, a national pharmaceutical injury law firm and birth injury lawyer in Dallas, Texas.

Click here to learn more: https://vignalawgroup.com/practice-areas/birth-injuries/

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