RESULTS: Thirty-six patients who had CSVT and were older than 1 month to 18 years presented to the Hospital for Sick Children, Toronto, from January 2004 to December 2005. Six (17%) of these patients had iron-deficiency anemia; 2 were female adolescents, and 4 were male toddlers. All patients had historical and laboratory evidence of iron-deficiency anemia. Other risk factors, such as dehydration or inflammatory disorders, were present in all patients, but we did not detect significant inherited hypercoagulable disorders or acquired thrombophilia in any of them.
CONCLUSIONS: This report strengthens the evidence of an association between iron-deficiency anemia and CSVT. We suggest that children who have CSVT should be screened for iron deficiency. Advocacy to prevent iron deficiency is important, because this condition may have serious long-term and irreversible developmental consequences.

PREDICTION OF NEURODEVELOPMENTAL OUTCOME AFTER PERINATAL ASPHYXIA VIA TRANSCRANIAL CEREBRAL ARTERY DOPPLER ULTRASONOGRAPHY

Submitted by Haung-Chi Lin
Haung-Chi Lin, Teng-Chi Shue
En Chu Kong Hospital, Taipei, Taiwan

INTRODUCTION: Perinatal asphyxia is the most common cause of neurologic injury to the neonate and may lead to significant morbidity and mortality. Cerebral artery Doppler ultrasonography has been used for prediction of outcome after perinatal asphyxia in recent decades.
OBJECTIVE: We investigated whether cerebral artery Doppler ultrasonography is 1 of earliest markers of neurodevelopmental outcome.
METHODS: Cerebral artery Doppler ultrasonography was performed serially via temporal window during the first week of life in 24 asphyxiated neonates in our NICU from 1999 to 2007. The resistive indexes (RI) and blood flow velocities in the cerebral arteries of the circle of Willis were obtained. Neurodevelopmental outcomes were evaluated during follow-up.
RESULTS: Four patterns of cerebral artery Doppler ultrasonography were identified: pattern 1, normal RI with normal cerebral blood flow (6 neonates); pattern 2, normal RI with high cerebral blood flow (4 neonates); pattern 3, high RI after 48 hours of life (8 neonates); and pattern 4, low RI with high cerebral blood flow (6 neonates). Patterns 3 and 4 demonstrated grave prognosis, with severe cerebral palsy or mortality reported in more than 3 of 4 of neonates with either pattern, whereas all neonates with pattern 1 had favorable outcomes, free of delayed development or neurologic sequelae.
CONCLUSIONS: Cerebral artery Doppler ultrasonography is an early useful tool for predicting neurodevelopmental outcome after perinatal asphyxia. The outcomes turned out to be grave once abnormal RIs were detected, either low or high, indicating severe neurologic damage after asphyxia.

FOCAL AREAS OF HIGH-SIGNAL INTENSITY ON BRAIN T2-WEIGHTED MAGNETIC RESONANCE IMAGING SCANS ARE SIGNIFICANT FOR THE DIAGNOSIS OF NEUROFIBROMATOSIS VON RECKLINGHAUSEN TYPE 1

Submitted by Borivoj Petrak
Borivoj Petrak[a], Jiri Lisy[b], Josef Kraus[a], Martin Kyncl[b], Tomas Zatrapa[a]
Departments of [a]Child Neurology and [b]Radiology, Charles University, Second Medical School and University Hospital Motol, Prague, Czech Republic

INTRODUCTION: Neurofibromatosis von Recklinghausen type 1 (NF1) is characterized by the following National Institutes of Health (NIH) diagnostic criteria: café au lait spots, freckling, neurofibromas, Lisch nodules, optic glioma, distinct osseous lesions, and first-degree relative with NF1. Focal areas of high-signal intensity (FASI) in white matter and deep gray matter are typical brain MRI findings in children with NF1.
OBJECTIVE: This study evaluated the frequency of FASI and the possibility of using FASI as a diagnostic criterion.
METHODS: In a group of 160 children, the diagnosis of NF1 was confirmed in keeping with the NIH criteria. All children had MRI examination of the brain. The MRI findings of FASI in the children with NF1 were compared both with the brain MRI findings of the control group of 160 children with different diagnoses and with frequencies of the NIH diagnostic criteria.
RESULTS: In 137 (86%) patients with NF1, ≥1 FASI were found. The difference between frequency of FASI in the NF1 group and in the control group (14 [9%]) is highly significant. The frequencies of the diagnostic criteria were as follows: café au lait spots: 157 (98%); freckling: 123 (77%); neurofibromas: 112 (70%); NF1 relatives: 89 (56%); Lisch nodules: 71 (44%); optic glioma: 45 (28%); and osseous lesions: 15 (9%; only partial examination of the group).
CONCLUSIONS: The findings of FASI in T2-weighted images of the brain MRI are significantly frequent in children with NF1. Frequency of FASI is comparable with frequency of NIH diagnostic criteria. FASI could be proposed as an additional or new criterion for the NF1, mainly in childhood.

FOCAL AREAS OF HIGH-SIGNAL INTENSITY ON BRAIN T2-WEIGHTED MAGNETIC RESONANCE IMAGING SCANS ARE SIGNIFICANT FOR THE DIAGNOSIS OF NEUROFIBROMATOSIS VON RECKLINGHAUSEN TYPE 1

Borivoj Petrak, Jiri Lisy, Josef Kraus, Martin Kyncl and Tomas Zatrapa

Pediatrics 2008;121;S147
DOI: 10.1542/peds.2007-2022CCCCCC

PEDIATRICS®
OFFICIAL JOURNAL OF THE AMERICAN ACADEMY OF PEDIATRICS

FOCAL AREAS OF HIGH-SIGNAL INTENSITY ON BRAIN T2-WEIGHTED MAGNETIC RESONANCE IMAGING SCANS ARE SIGNIFICANT FOR THE DIAGNOSIS OF NEUROFIBROMATOSIS VON RECKLINGHAUSEN TYPE 1

Borivoj Petrak, Jiri Lisy, Josef Kraus, Martin Kyncl and Tomas Zatrapa

Pediatrics 2008;121;S147
DOI: 10.1542/peds.2007-2022CCCCCC