

CRANIAL ULTRASOUND AND MRI IN PRETERM INFANTS

Cranial ultrasound (cUS) and conventional MRI, performed on the same day at term age, were compared in a population-based cohort of 72 extremely low gestational age (ELGA) infants (below 27 weeks) in a study at the Karolinska Institute, Stockholm, Sweden; and Sophia Children's Hospital, Rotterdam, The Netherlands. *MRI findings:* MRI was normal or showed only mild abnormalities in 83% of infants, and 17% had moderate or severe white matter (WM) abnormalities. No WM abnormalities were detected on MRI in 31/72 (43%) infants; abnormalities were mild in 29 (40%), moderate in 9 (13%), and severe in 3 (4%). Grey matter abnormalities were found in 8 (11%) infants, 4 having a small cerebellar hemorrhage. *Ultrasound findings:* US was normal in 28 (39%), abnormalities were mild to moderate in 41 (57%), and severe in 3 (4%) infants. *MRI and US compared:* All 3 infants with severe abnormalities were scored the same on MRI and US. Of 28 infants with normal US, 18 (64%) had completely normal MRI, and 10 (36%) had only mild WM abnormalities on MRI. Normal MRIs in 10 infants were scored as mild to moderate abnormality in cUS. Cerebellar hemorrhages in 4 infants diagnosed by MRI were not detected on cUS. (Horsch S, Skjold B, Hallberg B, et al. Cranial ultrasound and MRI at term age in extremely preterm infants. **Arch Dis Child Fetal Neonatal Ed** Sept 2010;95:F310-F314). (Respond: Dr Sandra Horsch, Dr Molenwaterplein 60, Rotterdam 3015GJ, The Netherlands. E-mail: s.horsch@gmx.de).

COMMENT. US and MRI performed on the same day at term age in ELGA infants were equally effective in detecting moderate or severe white matter abnormalities. MRI was modestly superior to US in diagnosis of mild abnormalities. Ultrasound screening test will identify infants with significant severe cranial abnormalities, and conventional MRI may provide additional relevant information regarding mild abnormalities, not always apparent on cUS. MRI spectroscopy and functional MRI are expected to improve the information obtained by conventional MRI.

Previous studies find conventional MRI to be superior to cUS in predicting adverse neurodevelopmental outcome at 2 years. Some authorities advocate the introduction of MRI as a screening test in all ELGA infants. The present authors emphasize the utility of the cUS as a screening test and the importance of comparing the diagnostic sensitivity of US and MRI on the same day at term age.

VASCULAR DISORDERS

STROKE AFTER VARICELLA-ZOSTER INFECTION

Researchers at University Hospitals of Ferrara and Padova, Italy, report a case of cerebral infarction and stroke occurring 3 months after varicella-zoster virus (VZV) infection in a 5-year-old immunocompetent child, and they provide a literature review of 70 similar cases. The child was admitted with a left hemiparesis of 10 days duration and gradual onset without fever or impaired consciousness. She had a past history of chickenpox at age 1 year and reactivation of VZV infection affecting the trunk 3 months before admission. Laboratory tests for other causes of stroke were negative. MR angiography showed narrowing of the right middle cerebral artery, compatible with