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# Neurodevelopmental and Perinatal Correlates of Simple Brain Metrics in Very Preterm Infants

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| Titre | Neurodevelopmental and Perinatal Correlates of Simple Brain Metrics in Very Preterm Infants |
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| Auteur | Nguyen The Tich, Sylvie [1], Anderson, Peter-J. [2], Hunt, Rod W [3], Lee, Katherine J [4], Doyle, Lex W [5], Inder, Terrie E [6] |
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| Résumé en anglais | OBJECTIVE: To explore perinatal correlates of 3 simple measures of brain size, known as metrics, in very preterm infants at term-equivalent age and their relationship to 2-year neurodevelopmental outcomes.DESIGN: Prospective cohort study of preterm infants born at a gestational age of less than 30 weeks or a weight of less than 1250 g between April 1, 2001, and December 31, 2003, and followed up at 2 years of corrected age. SETTING: The Royal Women's Hospital and the magnetic resonance imaging unit at the Royal Children's Hospital. PATIENTS: Two hundred thirty-six preterm infants. INTERVENTIONS: Brain metrics--biparietal, bifrontal, and transverse cerebellar diameters--on magnetic resonance imaging for preterm infants at term-equivalent age and neurodevelopmental assessments at 2 years of corrected age. MAIN OUTCOME MEASURES: Mental Development Index and the Psychomotor Development Index of the Bayley Scales of Infant Development-Revised. RESULTS: Higher birth weight z score, shorter duration of assisted ventilation, and postmenstrual age at magnetic resonance imaging were independently associated with increases in the 3 brain metrics, and male sex was associated with larger bifrontal and biparietal diameters. Only the biparietal diameter was predictive of cognitive and motor indices after adjustment for perinatal variables and social risk. CONCLUSION: This study provides further evidence of altered brain growth in preterm infants, relating to growth restriction and severity of illness, that in turn relate to neurodevelopmental outcome. |
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