

Neurodevelopmental Outcome of Extremely Low Birth Weight Infants at 2-Year
Corrected Age in 1998-2007: A 10-Year Cohort Study from Taiwan

極低出生體重早產兒於矯正年齡 2 歲之神經學預後追蹤：一醫學中心十年之經驗

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Abstract

Background: To describe the neurodevelopmental outcome of extremely low birth weight (ELBW) infants (birth weight \leq 1000 g) at 2-year corrected age using a 10-year cohort in a single medical center in Taiwan.

Methods: Demographic characteristics and clinical morbidities of ELBW infants admitted to China Medical University Hospital (CMUH) from 1998 to 2007 were collected. The Bayley Scales of Infant Development-II (BSID II) were used for neurodevelopmental assessment. The associations among clinical morbidities, abnormal mental developmental index (MDI) scores and psychomotor developmental index (PDI) scores were analyzed using a multivariate linear regression model.

Results: The survival rate of ELBW infants was 61.1% (311/509), and 206 of these infants received the neurodevelopmental evaluation at 2-year corrected age. Among the 206 infants evaluated, 22.33% had an abnormal MDI (<70), and 30.58% had an abnormal PDI (<70). The proportion of cerebral palsy, hearing impairments, and bilateral blindness was 15.05%, 0.49%, and 0.49%, respectively. Using multiple logistic regressions, PVL was associated with an abnormal PDI and cerebral palsy. The neurodevelopmental outcome of ELBW infants in our hospital was similar with that of the National Institute of Child Health and Human Development (NICHD) study, and the Vermont Oxford Network (VON) study. Overall neurodevelopmental morbidity had no significant change in our hospital between two 5-year- duration periods.

Conclusion: The neurodevelopmental outcome of ELBW infants in our hospital was similar to those of advanced countries. No significant change was observed in neonatal morbidities or neurodevelopmental impairments between the two 5-year-duration periods. A further population-based study is warranted to realize the nationwide outcome of ELBW infants.

Keywords: Extremely low birth weight, Mental Developmental Index, neurodevelopmental outcome, Psychomotor Developmental Index