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Abusive head trauma in infants: An observational single centre study comparing developmental and functional outcome between 18 months and 5 years[☆]

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ABSTRACT

Background: Abusive head trauma (AHT) is a major cause of traumatic brain injury in infancy. This exploratory study compared standardized developmental assessment versus functional outcome assessment between 18 months and 5 years of age following AHT in infancy.

Methods: Observational cross-sectional study after surviving AHT in infancy. Seventeen children between 18 months and 5 years of age underwent clinical examination, developmental assessment using the Schedule of Growing Skills II (SGS II) and functional assessment using the Glasgow Outcome Scale-Extended Pediatric Revision (GOS-E Peds). Additional clinical information was extracted from medical records.

Results: Age at assessment ranged from 19 to 53 months (median 26 months). Most ($n = 14$) were delayed in at least 1 domain, even without neurological or visual impairment or visible cortical injury on neuroimaging, including 8 children with favourable GOS-E Peds scores. The most affected domain was hearing and language. Delay in the manipulative domain ($n = 6$) was associated with visual and/or neurological impairment and greater severity of delay across multiple domains. Eleven (64.7 %) had GOS-E Peds scores indicating good recovery, with positive correlation between GOS-Peds scores and number of domains delayed ($r = 0.805, p < 0.05$).

Conclusion: The SGS-II detects behavioural and cognitive deficits not picked up by the GOS-E Peds. Combining both tools for assessment of AHT survivors under 5 years of age provides a comprehensive profile which addresses multiple domains of development and function, facilitating targeted intervention. Detection of developmental problems in the majority of survivors makes AHT prevention a public health priority.

1. Introduction

Abusive head trauma (AHT) is a major cause of paediatric traumatic brain injury. Estimated worldwide incidence ranges from 32 to

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