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Recovery of Language and Reading in Post-CVA Aphasia: A Longitudinal Study

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Introduction

Despite the high incidence of post-CVA aphasia, there have been few detailed neuropsychological investigations measuring the acute status of language and tracking subsequent recovery. This paper provides a detailed longitudinal study of language and reading impairment, tracking recovery using a 'snapshot' methodology.

Methods

Twenty-three patients were assessed using a comprehensive test battery at the acute and three-month stages post-CVA. Seventeen of those patients were also assessed at nine months post-onset. At each stage, the patients were classified using three systems; aphasia type, acquired dyslexia type and aphasia severity.

Results and Discussion

Language impairment was most severe acutely and on average the patients made 75% of their total recovery during the initial three months and the further 25% between three and nine months post-CVA. There was a strong relationship between acute severity and recovery at nine months. The development of a novel continuous severity scale measured gradual recovery and captured the finer detail that allowed for predictions of recovery. Severity captured 57% of the variance within patient performance and the deviations away from severity were analogous to recognisable aphasia types.

The cohort was relatively homogenous in terms of aphasia classification acutely, with more variation in language profiles at three and nine months. Five participants evolved from one aphasia type to another during the first three months, in comparison to six who shifted between three and nine months. These data differ to the majority of reports in the literature, most of which describe that recovery predominantly occurs during the first three months post-onset with only minor changes in the following months (Heiss, Thiel, Kessler, & Herholz, 2003). A more detailed analysis of reading recovery showed that phonological dyslexia commonly emerged through recovery and depended on relatively intact semantics; acute semantic impairment severity was strongly predictive of phonological dyslexia at nine months post-CVA. These results replicate many previous findings from chronic patients (Crisp & Lambon Ralph, 2006; Patterson & Marcel, 1992)and support the predictions from computational modelling (Welbourne & Lambon Ralph, 2007). This work highlights the importance of assessing patients early post-CVA to enable predictions to be made about recovery. It also adds to the debate about the provision speech and language therapy intervention for patients with acute post-CVA aphasia.

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