USE OF BIOMARKERS TO IDENTIFY PRODROMAL ALZHEIMER'S DISEASE: THE ROLE OF COGNITIVE FUNCTION ASSESSMENT

K. Wesnes$^{1,2}$
$^{1}$United BioSource Corporation, Goring on Thames, UK, $^{2}$Brain Sciences Unit, Swinburne University, Melbourne, VIC, Australia

Cognitive dysfunction is a core symptom of the dementias and Mild Cognitive Impairment (MCI). Neither Alzheimer's nor MCI have sudden onsets of action, and thus the cognitive dysfunction which characterises the conditions must have a gradual development. Over the last 15 years evidence has accumulated from two large databases that from the twenties onwards, most aspects of cognitive function begin to decline in the majority of healthy individuals, these declines becoming large in magnitude. These two independently gathered databases showing age-associated cognitive declines in healthy individuals will be reviewed, and the additional impairments seen in MCI and Alzheimer's considered. This work suggests that as opposed to cross-sectional screening to identify prodromes for dementia such as MCI, the alternative would be to monitor cognitive function over time to identify abnormally rapid rates of decline in individuals which cannot be explained by factors such as acute physical, psychiatric or neurological illness. Those individuals for whom no acute explanations for the declines were identified could form a cohort for which treatment interventions to delay or arrest the cognitive deterioration might be particularly effective. Highly sensitive automated cognitive test systems have been developed which could be suitable for such long-term screening and to monitor the effectiveness of treatment. The ideal characteristics of such tests will be discussed as will the implementation of such tests in screening programmes for dementia prodromes. It will be argued that a major biomarker for prodromal dementia will be abnormal rates of decline in tests of cognitive function.