Recent Developments in Dementia: From New Diagnostic Criteria to a New Name

In the past decade, there have been significant advances in the understanding of the pathophysiology of various forms of dementia. In particular, there have been remarkable developments in the use of biomarkers for the diagnosis of Alzheimer’s disease (AD).

In the past, AD was viewed as a clinicopathological condition, with underlying AD pathology in the brain and a clinical manifestation of dementia. With the advances in technology, including biomarkers based on cerebrospinal fluid (CSF) and neuroimaging, it is now possible to detect AD pathology in the brain years before the onset of clinical symptoms. It is postulated that amyloid biomarkers are abnormal 10 to 20 years before the onset of clinical symptoms, whereas abnormalities in biomarkers of neurodegeneration occur later.1

The revised criteria for AD by the National Institute on Aging–Alzheimer’s Association (NIA-AA), published in 2011, represent a major paradigm shift in the diagnosis of AD.2 These criteria are intended to replace the one by McKhann et al2 that have been in use since 1984. Major changes in the criteria are the incorporation of biomarkers into the diagnostic criteria, and the differentiation of AD into 3 stages of disease — preclinical AD, mild cognitive impairment (MCI) due to AD, and AD dementia.3,5 With the use of biomarkers, it is now possible to diagnose AD at a very early stage, even at a preclinical stage when there is AD neuropathology but no clinical symptoms. Currently, the better-validated biomarkers include6:

1. Biomarkers of brain β-amyloidosis, which are evidenced by either increased uptake of amyloid on amyloid imaging (e.g. positron emission tomographic [PET] scan with Pittsburgh compound B), or decreased CSF amyloid β42.
2. Biomarkers of neuronal degeneration or injury, evidenced by temporoparietal hypometabolism on fluorodeoxyglucose PET scan or temporoparietal hypoperfusion on single photon emission computed tomography, medial temporal atrophy on structural imaging, or increased CSF tau or phospho-tau.

These new criteria are very useful for recruiting individuals at a very early stage of AD for research purposes, and may increase the diagnostic certainty that a patient’s cognitive impairment is due to AD. Indeed, these new criteria are greeted with great enthusiasm by both researchers and by clinicians. However, potential problems in the use of these criteria in routine clinical practice have also been raised. These include: (1) the lack of standardisation of various biomarkers and poor reproducibility across centres, so that optimal cut-off scores are not established; (2) the uncertain predictive value of these new criteria, e.g. whether preclinical AD will progress to MCI or dementia; (3) practical difficulties in operationalising these criteria; (4) the clinical utility of a preclinical diagnosis of AD in the absence of effective disease-modifying treatment; and (5) ethical concerns about how the very early diagnosis of AD, e.g. preclinical AD or MCI due to AD, will affect the person in various aspects of their lives, including job opportunities, insurance, and driving.6,7

Turning to Hong Kong, there are additional problems in applying the new diagnostic criteria in the local setting. For instance, the waiting time for a new case appointment in the psychogeriatric outpatient clinics varies from several months to over a year. In certain clusters under the Hospital Authority (HA), the waiting time for a computed tomographic scan is 1 year. The costs of checking for the presence of the AD biomarkers are very high, and affordability is a major factor that will limit the widespread use of these biomarkers. With the stretched resources in the HA, the situation is unlikely to improve drastically in the near future. We are of the view that the new criteria for AD diagnosis are a major advance in the field of dementia, and are very useful for research, as well as for the diagnosis of difficult cases in tertiary centres, but they are not suitable for routine clinical use in Hong Kong currently.

Another notable development in the field is the change in nomenclature of the term ‘dementia’ in the forthcoming DSM-V, scheduled to be published in 2013. The Neurocognitive Disorders Work Group is now working on a new term to replace dementia. It is likely that either of the terms ‘major neurocognitive disorder’ or ‘major cognitive disorder’ will be used.8

It is obvious from all these developments that there is an international trend to identify AD and dementia at a very early stage. In contrast, patients with dementia often present very late for diagnosis and treatment in Hong Kong. The Chinese term for dementia (「癡呆症」) has been used in Hong Kong for many years. This Chinese term has negative connotations, being associated with the concepts of ‘insanity’ and ‘idiocy’. Many local professionals in the field believe that the stigma associated with the Chinese term for dementia is an important factor leading to the delay in medical consultation and diagnosis of the condition.9

In October 2010, a campaign to change the Chinese term for dementia was hosted by the Jockey Club Centre for Positive Ageing. Eventually, the term 「腦退化症」 was selected. However, this term was not accepted by
the medical professional community. For instance, the Hong Kong Psychogeriatric Association was among the first associations to object to this name, and to point out that this term is inappropriate. First, 「腦退化症」 means neurodegeneration but, in dementia, around 30% of cases are due to vascular causes and other miscellaneous causes. Second, many patients with neurodegenerative diseases such as Parkinson’s disease do not have clinical dementia.

Amidst this background, a Working Group consisting of 10 professional associations was formed to deliberate on a new Chinese term for dementia in late 2010. Finally, the Working Group decided to recommend the term 「認知障礙症」 to replace 「痴呆症」, as the former reflects the core deficits in dementia and is consistent with the term ‘major cognitive / neurocognitive disorder’ that would be used in the DSM-V. It is hoped that this new term might decrease the stigma associated with the term 「痴呆症」 in the past, so that patients will present earlier for diagnosis and treatment. Another significant event is that the Hong Kong Alzheimer’s Disease Association has decided to change its Chinese name from 「香港痴呆症協會」 to 「香港認知障礙症協會」 to support the use of this new Chinese term for dementia. The Psychogeriatric Working Group under the HA will also discuss the adoption of this new Chinese term in clinical practice.

In this Editorial, we have highlighted the recent developments in the field of dementia. To summarise, the past decade has witnessed prolific research on AD biomarkers, as well as an international trend to advance the diagnosis of dementia to a very early stage. The new NIA-AA criteria for AD, with a heavy emphasis on biomarkers, represent a paradigm shift in the diagnosis of AD. These criteria may be useful in specialised centres, but are not yet suitable for routine clinical use in Hong Kong. Finally, there has been much discussion on the change of the Chinese term for dementia in Hong Kong in the past 2 years. Psychiatrists, in particular psychogeriatricians, see a large number of patients with dementia in clinical practice. Indeed, around 40 to 50% of new referrals to the psychogeriatric outpatient clinics are patients with dementia. We believe that psychiatrists should play a leading role in promoting the use of the new term 「認知障礙症」 for dementia, so that it will become widely accepted by the public in the near future.

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References