

INTRODUCTION

Diagnosis and Treatment of Dementia: the Fourth Canadian Consensus Conference

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It is inevitable that when discoveries are made in any medical field there is pressure to move expeditiously to clinical applications of these discoveries. While there is every reason to disseminate widely the results of efficacious therapeutic trials that improve meaningful clinical outcomes, and diagnostic strategies that are more sensitive, more specific, less burdensome to the patient and more parsimonious of resources, some restraint is advisable when the benefits are less compelling. For example, a technique that allows an earlier diagnosis of an incurable disease – such as Alzheimer's disease (AD) – risks labeling an individual, affecting the person's ability to acquire life, health or travel insurance, and may result in suspension of driving privileges.

Finding the balance between embracing leading-edge technologies prematurely and failing to accept proven therapies or diagnostic strategies in a timely manner is the sweet spot to which we should all aspire. We must try to avoid repeating the unfortunate experiences occasioned by widespread prescription of medications before the true range of adverse effects has been elucidated (for example, rofecoxib), by surgical procedures of dubious value (for example, external carotid artery to internal carotid artery bypass) as much as by laggardly adoption of effective treatments such as thrombolysis in stroke and myocardial infarction.

While we all depend upon evidence to guide our decision-making, it is regrettable for many of our clinical dilemmas that high-quality evidence is in short supply. Members of the Fourth Canadian Consensus Conference on the Diagnosis and Treatment of Dementia (CCCDTD4) have tried to find this balance, by carefully examining the available evidence, formulating recommendations, seeking peer review and eventually reaching consensus (mostly) on final recommendations to clinicians and, in some cases, investigators. This CCCDTD4 build upon the three previous conferences [1-3] but has important differences.

First, we targeted clinicians who are nondementologist specialists, notably general neurologists, internists, geriatricians and general psychiatrists. Our secondary audience was primary care practitioners, who in Canada are mostly family physicians.

Second, we endeavored to fulfill the tenets of the Appraisal of Guidelines for Research and Evaluation Collaboration, a list of criteria designed to improve the methodological quality of the exercise [4]. Twenty out of 23 criteria were met.

Third, we planned for dissemination and knowledge exchange well in advance, so that all recommendations were published relatively soon after the conference [5,6], and the Canadian Dementia Knowledge Translation Network mounted a strategy to reach practitioners, lay public and policy-makers [7]. In addition, a commercial Internet-based educational initiative was launched [8]. Representation of membership was broad, and for the first time included a bioethics consultant and a consumer. The whole initiative was supported by funds independent of any commercial interest. To support each recommendation, background papers were prepared for each topic group. These papers are included in the Canadian Consensus Conference supplement published in *Alzheimer's Research & Therapy*.

Many changes to the diagnostic criteria for the dementias and prodromal conditions have been advanced in recent years. The definitions group recommended the adoption of the diagnostic criteria of the National Institute on Aging–Alzheimer's Association Working Group for dementia, probable and possible AD and mild cognitive impairment due to AD [9]. There was considerable discussion and concern about the concept of prodromal AD based on biomarkers, and the concept should be reassessed when prognostic validation has been established.

The neuroimaging group engaged in a comprehensive review of existing and developing technologies [10,11]. Despite the extremely promising nature of amyloid imaging, the group advised against widespread clinical adoption of this modality until its role in diagnosis and prognosis can be more fully understood. Amyloid imaging use in cognitively normal individuals is particularly fraught with ethical and practical hazards. Recommendations

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about directions for future research in magnetic resonance imaging (functional magnetic resonance imaging, magnetic resonance spectroscopy, and so forth) and amyloid imaging will be explained in a subsequent article.

The pharmacology group reported that while there have been no new cognitive enhancing pharmacological agents approved for use since the last consensus conference, the role of cholinesterase inhibitors in severe AD and dementia associated with Parkinson's disease is now established. Recognizing the increased incidence of strokes and all-cause mortality associated with antipsychotic medications in people with dementia, recommendations are made based on the balance of risks and benefits to the individual or others [12].

We hope that the results of our deliberations will be of interest to the international community, for dementias of all types will challenge patients, caregivers and the healthcare systems, not only in Canada but throughout the developed and developing world.

Abbreviations

AD, Alzheimer's disease; CCCDTD4, Fourth Canadian Consensus Conference on the Diagnosis and Treatment of Dementia.

Competing interests

The authors declare that they have no competing interests.

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Declarations

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