

## Introduction

# Alzheimer's Disease: From Research to Practice

Lon S. Schneider, M.D.

Alzheimer's disease (AD) is a progressive, neurodegenerative syndrome that often first manifests with mild cognitive, language, and behavioral symptoms that gradually worsen in severity, eventually requiring total care for affected patients. Its incidence and prevalence increase exponentially with age. AD is the most common form of dementia among the elderly, affecting approximately four million patients in the United States. Although it is often considered a unitary, well-defined illness, its clinical, biological, and genetic aspects are highly heterogeneous. While the pathogenesis of AD is seemingly rapidly unfolding, and there are new effective treatments, treatments to prevent or delay its onset have yet to be validated. However, advances in genetics and biochemistry are strongly shaping emerging therapies.

Derived from a symposium, "Alzheimer's Disease: From Research to Practice," presented at the annual meeting of the American Psychiatric Association on May 4, 1996, in New York City, this supplement provides an overview of approaches to early diagnosis, current effective treatments, and a glimpse into both the past and the future. Both the symposium and the supplement were supported by educational grants from Pfizer Inc and Eisai Inc.

Neuroimaging techniques have become somewhat controversial in the clinical diagnosis of dementia and are now considered optional for routine diagnosis by the American Academy of Neurology and the Agency for Health Care Policy Research. In the first article, Dr. Gary W. Small and Dr. Fredda Leiter discuss the advantages and disadvantages of the various neuroimaging techniques for the differential diagnosis of AD and describe imaging and other strategies that can be used for early detection of dementia. As effective therapeutic interventions emerge, early diagnosis becomes increasingly important. Neuroimaging may play an earlier rather than later role in the diagnosis of this illness.

In my review, I then discuss current therapeutic approaches to cognitive impairment of dementia, including the differential pharmacology of cholinesterase inhibitors and their effectiveness. I further discuss approaches that could slow the rate of cognitive decline in AD that might soon be demonstrated as efficacious, including the potential use of antioxidants and monoamine oxidase B inhibitors. Additionally, I underscore that effective psychosocial interventions may contribute to prolonging quality of life and activities of daily living in the community.

Dr. Kenneth L. Davis continues the theme of potential treatments to alter clinical course by focusing on the biological plausibility of using anti-inflammatories, estrogen preparations, and possibly cholinergic compounds that may have neuronal protective or neurotrophic actions.

Over the last year, several consensus panels have evaluated and provided guidelines for the diagnosis of AD. The American Psychiatric Association decided to focus its efforts on moving one step beyond the diagnostic process by developing treatment guidelines for AD and other dementias. Dr. Peter V. Rabins was the chair of this task force, and, in the last offering, he discusses the process that was used in developing these guidelines and recommendations.

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*From the Department of Psychiatry and the Behavioral Sciences, the Department of Neurology, School of Medicine, and the Andrus Gerontology Center, University of Southern California, Los Angeles.*