

HOSPITAL PHYSICIAN®

PSYCHIATRY BOARD REVIEW MANUAL

PUBLISHING STAFF

PRESIDENT, GROUP PUBLISHER

Bruce M. White

EDITORIAL DIRECTOR

Debra Dreger

SENIOR EDITOR

Becky Krumm, ELs

ASSISTANT EDITOR

Jennifer M. Vander Bush

EXECUTIVE VICE PRESIDENT

Barbara T. White, MBA

EXECUTIVE DIRECTOR

OF OPERATIONS

Jean M. Gaul

PRODUCTION DIRECTOR

Suzanne S. Banish

PRODUCTION ASSOCIATES

Tish Berchtold Klus

Mary Beth Cunney

PRODUCTION ASSISTANT

Stacey Caiazzo

ADVERTISING/PROJECT MANAGER

Patricia Payne Castle

MARKETING MANAGER

Deborah D. Chavis

NOTE FROM THE PUBLISHER:

This publication has been developed without involvement of or review by the American Board of Psychiatry and Neurology.



**Endorsed by the
Association for Hospital
Medical Education**

The Association for Hospital Medical Education endorses HOSPITAL PHYSICIAN for the purpose of presenting the latest developments in medical education as they affect residency programs and clinical hospital practice.

Alzheimer's Disease

Series Editor:

Jerald Kay, MD

Professor and Chair, Department of Psychiatry, Wright State University School of Medicine, Dayton, OH

Contributor:

Jerome J. Schulte, Jr, MD

Assistant Professor, Department of Psychiatry, and Director, Consultation Psychiatry, Wright State University School of Medicine, Dayton, OH; and Medical Director, Mental Health Inpatient Unit, Good Samaritan Hospital, Dayton, OH

Table of Contents

Introduction	2
Evaluation of Dementia	2
Pathogenesis and Genetics of Alzheimer's Disease	6
Treatment of Alzheimer's Disease	7
Other Management Considerations	9
Conclusion	10
References	10

Cover Illustration by Stacey Caiazzo

Copyright 2002, Turner White Communications, Inc., 125 Strafford Avenue, Suite 220, Wayne, PA 19087-3391, www.turner-white.com. All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted in any form or by any means, mechanical, electronic, photocopying, recording, or otherwise, without the prior written permission of Turner White Communications, Inc. The editors are solely responsible for selecting content. Although the editors take great care to ensure accuracy, Turner White Communications, Inc., will not be liable for any errors of omission or inaccuracies in this publication. Opinions expressed are those of the authors and do not necessarily reflect those of Turner White Communications, Inc.

Alzheimer's Disease

Jerome J. Schulte, Jr, MD

INTRODUCTION

A major challenge in the health care arena in the 21st century will be the treatment of Alzheimer's disease, a disorder characterized by memory deficits, cognitive dysfunction, and associated behavioral problems. With more elderly persons surviving to advanced age, the risk for Alzheimer's disease increases exponentially. The burden of Alzheimer's disease will be enormous and will have a profound effect on caregiver families in terms of caretaking time and expense. The cost of nursing home care for patients with Alzheimer's disease will become a national economic burden. Therefore, prevention of this disease is a critical goal of future research. Currently, clinicians struggle with maximizing patients' functioning while sustaining an acceptable quality of life.

EPIDEMIOLOGY OF ALZHEIMER'S DISEASE

Alzheimer's disease affects fewer than 1% of 65-year-olds in the United States; however, the prevalence doubles every 5 years to 2% of 70-year-olds, 4% of 75-year-olds, 8% of 80-year-olds, 16% of 85-year-olds, and 28% of 90-year-olds.¹ Because the number of persons in the United States older than 65 years is the fastest growing segment of our population, Alzheimer's disease is becoming a major public health problem. Currently, 4 million people in the United States suffer from Alzheimer's disease. This number will reach 8 million in the year 2025 and 12 million by the year 2050.² Alzheimer's disease is the third most costly disease to treat in the United States, following cancer and heart disease. The cost of care for patients with the disease is a staggering \$80 billion per year in the United States. A large portion of this cost is for nursing care.

EVALUATION OF DEMENTIA

DIAGNOSING DEMENTIA

Diagnosing Alzheimer's disease begins with making the diagnosis of dementia. According to the *Diagnostic*

*and Statistical Manual of Mental Disorders, Fourth Edition, Text Revision (DSM-IV-TR)*³ (Table 1), dementia is defined as a degenerative brain disease characterized by a significant decline in cognitive functioning from baseline manifested by memory impairment and at least one of the following: aphasia, apraxia, agnosia, or disturbance in executive functioning. The deficits seen cannot be caused by delirium.

Memory loss is usually the initial and core symptom of dementia and is profound and progressive.

Aphasia is a cortical language deficit involving the expression or comprehension of language. Aphasia can be detected in the course of the clinical interview as well as by testing for specific language functions (eg, naming, repetition, reading, writing).

Apraxia is a deficit in the cortically mediated ability to organize complex motor movements when the motor system is otherwise intact. The clinician can test for apraxia by having patients attempt to perform simple maneuvers, such as showing how they would brush their teeth or comb their hair.

Agnosia is the sensory correlate of apraxia. It involves impairment in the integration of complex sensory input when the sensory system is otherwise intact. Agnosia can be assessed by testing for stereognosis or graphesthesia, or by asking a patient to identify a famous person from their picture in a newspaper. Agnosia is often misidentified as delusional thinking. For example, a patient who recognizes his wife's voice but cannot recognize her face because of a visual agnosia may believe an impostor has replaced his wife.

Executive functioning impairment is another common manifestation of dementia. Mediated by the frontal cortex, executive function is the ability to plan, initiate, monitor, and execute complex tasks in a logical, goal-directed manner. The abilities to pay household bills or balance a checkbook are examples of skills requiring intact executive functioning.

RULING OUT DELIRIUM

The diagnostic definition of dementia specifies that the decline in cognition is not caused by delirium. It is imperative that delirium is not misdiagnosed as dementia, because delirium is reversible and dementia is not;