

Preface

Current Treatment Challenges and Emerging Therapies in Parkinson's Disease



Robert A. Hauser, MD



Rajesh Pahwa, MD

Guest Editors

Parkinson's disease (PD) affects approximately 50 of every 100,000 persons ages 50 years and older and is characterized by an unpredictable course. Although some patients have symptoms for many years or even decades without overwhelming disability, others experience significant disability within a short period of time. The major causes of long-term disability include motor complications, dementia, and balance difficulty. In addition, patients are commonly bothered by neuropsychiatric and cognitive symptoms, autonomic dysfunction, pain, social isolation, and sleep disorders. We need better symptomatic therapies for these problems and, most of all, we need a treatment to stop progression of the disease. The lack of a predictable course, the emergence of disabling symptoms for which there are no adequate treatments, and the absence of interventions to slow or stop the progression of the disease present significant challenges for physicians, patients, and caregivers.

Although Dr. James Parkinson first described the symptoms of PD in 1817, it has been only during the past few decades that clues to the etiology and pathophysiology have been elucidated. Despite the advances made in the understanding of PD, optimal current treatment remains undefined, and no cure has been discovered. In this supplement to *Neurologic Clinics*, experts in specific areas of PD research and treatment present the scope of disease symptoms and complications, discuss currently available treatments, and provide insights into therapies on the horizon.

In the first article, Dr. Hälbig and colleagues review findings from studies that explore possible neuroprotective agents and discuss their limitations and future implications.

Building on this information, Dr. Tetrud outlines challenges inherent in the treatment of early-stage PD. To address these difficulties, he offers nonpharmacologic measures and pharmacologic options that not only might improve symptoms, but also provide neuroprotection. Emerging data may support the use of drugs other than levodopa for early-stage disease. As the disease progresses, most patients develop levodopa-related motor fluctuations and dyskinesias.

Over time, these complications become increasingly severe and disabling. Drs. Pahwa and Lyons describe various strategies to manage these adverse effects, including new drug regimens and surgical intervention.

Several complications of PD have a negative impact on patients' mobility, function, and quality of life (QOL). The pathology underlying one of these, freezing of gait, is poorly defined. According to Dr. Panisset, whether or not this manifestation of PD is a cardinal feature of the disease or an adverse effect of levodopa therapy is unknown. He offers a glimpse into the current understanding of this complication and delineates risks and benefits of available and proposed therapies.

As is true for dementia, neuropsychiatric disorders significantly increase the caregiver's burden. These disorders, which include anxiety, apathy, depression, hallucinosis, and psychosis, often are more disabling than the motor symptoms of PD. Dr. Chen reviews the etiology, diagnosis, and treatment options for several of these disorders.

As PD progresses, dementia and cognitive impairment become problematic. Cognitive impairment in PD has features of Lewy body dementia and Alzheimer's disease, both related conditions; clinically differentiating these etiologies from one another, and from other cognitive disorders, can be accomplished through patient assessment and neuropsychometric testing. Dr. Elmer describes a diagnostic pathway for PD-associated dementia and cognitive impairment. The treatment options are limited and none have been adequately tested. Moreover, a careful balance must be struck between the treatment of dementia and of motor symptoms. Dr. Elmer reviews study findings for currently available therapies and those that might prove beneficial in the future.

A variety of sleep disorders affect patients who have PD, ranging from difficulty in falling and staying asleep to parasomnias, excessive daytime sleepiness, and sudden-onset sleep. In her article, Dr. Simuni details sleepiness in PD and discusses its causes. She also describes sleep disorders in PD and reviews their treatments. She emphasizes the importance of accurate diagnosis and offers nonpharmacologic and pharmacologic interventions that might prove beneficial.

Dr. Dewey describes the symptoms of autonomic dysfunction, which also are common in patients who have PD. As with freezing of gait, autonomic

complications affect patients' QOL and increase their risk for such untoward events as falls. In addition to providing a descriptive overview of the manifestations of autonomic dysfunction, Dr. Dewey outlines diagnostic and management guidelines.

It is not surprising that the physical, mental, and emotional stresses associated with this disease have a dramatic impact on the QOL of patients who have PD and their caregivers. As Dr. Welsh explains, assessment of QOL in patients who have PD should be an integral component of their care. Recently, QOL has been used as an outcome measure in clinical trials of PD. This helps identify factors besides severity of illness that affect QOL, such as acceptance and resources. Evidence-based information from studies evaluating QOL both of patients and their caregivers can provide insights into interventions that could improve the lives of patients and those who care for them.

Drs. Hauser and Lyons describe promising new medications and novel formulations that may prolong symptom control and improve outcomes over the long term. They discuss the roles these new therapies might play in the treatment of PD.

Despite better understanding of pathophysiologic mechanisms in PD, development of new approaches to treating the disease, and improved patient care, physicians, patients, and caregivers are still confronted on a daily basis with the ongoing challenges of living with PD. We hope that the information presented in this supplement provides clearer diagnostic and treatment options and, ultimately, improves the lives of our patients.

Robert A. Hauser, MD, MBA

*Departments of Neurology, Pharmacology and Experimental Therapeutics
University of South Florida and Tampa General Healthcare
Parkinson's Disease and Movement Disorder Center
4 Columbia Drive, Suite 410
Tampa, FL 33606, USA*

E-mail address: rhauser@hsc.usf.edu

Rajesh Pahwa, MD

*Department of Neurology
University of Kansas Medical Center
Parkinson's Disease and Movement Disorder Center
3599 Rainbow Boulevard
Kansas City, Kansas 66160, USA*

E-mail address: rpahwa@kumc.edu