Initial Management of Parkinson's Disease in a Florida Community

Theresa A. Zesiewicz, MD[*]
Summer N. Carter, MSPH[*]
Kelly L. Sullivan, MSPH[*]
Joseph F. Staffetti, MD[†]
Peter B. Dunne, MD[*]
Robert A. Hauser, MD[*‡]

[*]*Department of Neurology, University of South Florida*
[†]*Regional Medical Center-Bayonet Point, Hudson, Florida*
[‡]*Department of Pharmacology and Experimental Therapeutics, University of South Florida, Tampa, Florida*

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ABSTRACT

We evaluated the initial diagnosis and treatment patterns of 229 patients with Parkinson's disease, who presented to a university movement disorders center, regardless of where the diagnosis was first made and who initiated therapy. Patients with Parkinson's disease, under age 70, who were diagnosed prior to 1998, were almost twice as likely to receive levodopa/carbidopa as their initial medication when compared to those diagnosed after 1998. The initial diagnosis of Parkinson's disease took over 2 years to make in 25% of patients, and 70% of patients did not receive a Parkinson's disease diagnosis until 2 or more physicians were consulted.

INTRODUCTION

The optimal initial management of Parkinson's disease (PD) is controversial. Levodopa is generally considered to be the most effective medication for treating PD symptoms, but it hastens the onset of motor complications.[1-3] A levodopa-sparing strategy has been proposed by some experts as an effective way to treat patients with PD and delay the onset of motor complications.[4,5] Recommendations include the use of dopamine agonists as primary symptomatic therapy with the addition of levodopa/carbidopa when dopamine agonists no longer provide sufficient clinical symptomatic control.[5] Other evidence-based literature reviews suggest that while management of PD must be individualized, levodopa/carbidopa, dopamine agonists, or other antiparkinsonian medications may be used for initial treatment of PD, depending on the cognitive state of the patient and financial considerations.[3,6]

We evaluated the changing patterns of initial treatment of patients with PD, who were seen at a university movement disorders center. We also gathered information regarding their initial diagnosis.

METHODS

Telephone and in-person interviews were conducted with 229 consecutive idiopathic patients with PD, who received care at a university movement

disorders center in Tampa, Florida from 2000 through 2001. All patients completed questionnaires regarding their initial symptoms, length of time until a diagnosis of PD was made, and type of specialist who made the diagnosis and initiated treatment. Retrospective chart reviews were performed on all patients to confirm questionnaire data. We focused on the initial treatment patterns in patients under 70 years of age, since there is general consensus that initial treatment with levodopa is appropriate for older patients. Data regarding diagnosis and treatment of patients with PD was further analyzed prior to and after 1998, a date by which medical practitioners had ample opportunity to assimilate published recommendations from the early 1990's and decide whether to incorporate them into practice.

RESULTS

Two hundred and twenty nine patients with PD completed the initial survey. The mean age of patients with PD surveyed was 67 ± 12 years (median = 69 years). The most common initial PD symptom that patients experienced was tremor (61%, n=158), followed by stiffness in an extremity (18%, n=42), slowness (17%, n=38), and difficulty walking (17%, n=38). Sixty-three percent of patients experienced more than 1 symptom when initially presenting to a physician for evaluation.

Fifty-five percent of patients were diagnosed with PD within 1 year of experiencing their initial symptoms, while 20% were diagnosed between 1 and 2 years. Twenty-five percent of patients were not diagnosed with PD for more than 2 years after experiencing their initial symptoms (mean=4.8 ±2.8 years), although almost half (46%) of these patients sought help from a medical practitioner within 6 months of experiencing symptoms. No relationship was found between length of time to diagnosis and specialty of physician initially visited, type of initial symptom including tremor, number of initial symptoms present, performance of neuroimaging techniques, number of doctors visited, age of patient at time of diagnosis, or year of diagnosis.

Only 29% of patients with PD were diagnosed with PD by the first physician they visited for their initial PD symptoms. Fifty-one percent of patients visited 2 physicians before they were diagnosed with PD, while 20% of patients visited 3 or more physicians before receiving a PD diagnosis. The specialty of physician initially visited, initial symptom, and number of symptoms had no bearing on the time it took to receive a diagnosis.

Seventy-six percent of PD patients under age 70 received a medication within 1 week of diagnosis, both prior to and after 1998. Patients with PD under age 70, who were diagnosed prior to 1998, were 1.7 times as likely to receive levodopa/carbidopa as their initial medication compared to those diagnosed after 1998 (95% CI 1.16-2.49). In the group of younger patients with PD, diagnosed prior to 1998, 63% of patients were initially started on levodopa/carbidopa, 15% were started on selegiline, 5% were first treated with anticholinergics (trihexyphenidyl or cogentin), 4% took amantadine, and 3% were started on a dopamine agonist (Figure). Other medications that were initially prescribed prior to 1998 were inderal and mysoline. From 1998 through 2001, the percentage of patients with PD under age 70, who were initially prescribed levodopa/carbidopa dropped to 37%. During this period, 18% of patients with PD were started on selegiline, 12% took a dopamine agonist, 6% were started on amantadine, and 8% took anticholinergic medications (Figure 1). Other medications initially prescribed after 1998 included clonazepam and mysoline.

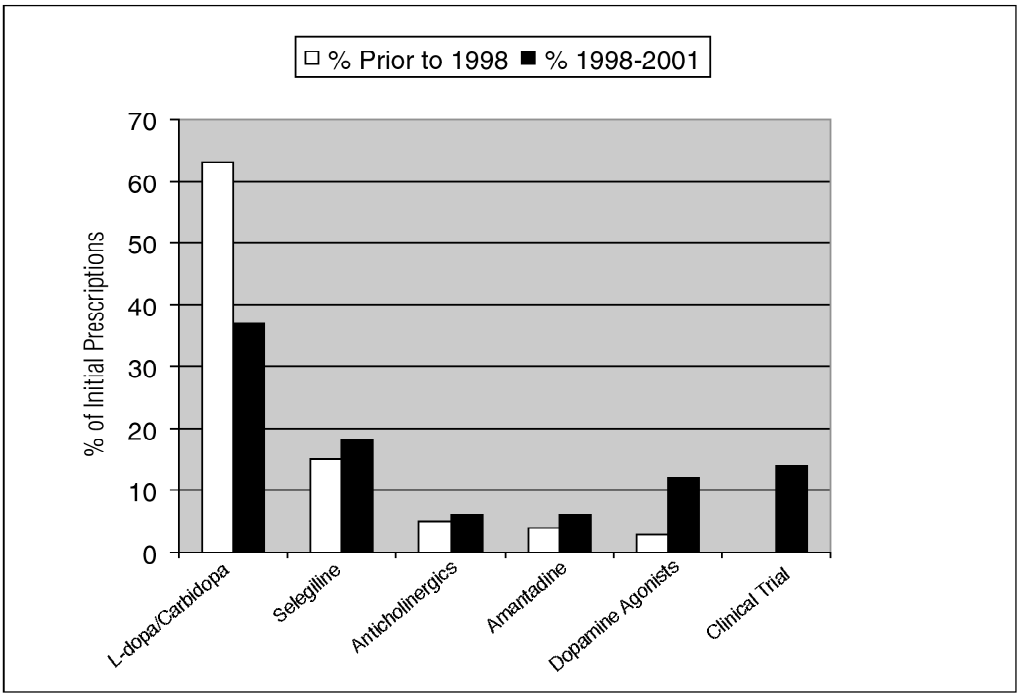

Figure. Initial medication prescribed to patients with PD, pre and post 1998.

Prior to 1998, initial medications prescribed by general neurologists to treat PD in patients under age 70 consisted of levodopa/carbidopa (66%), selegiline (19%), amantadine (4%), anticholinergic medications (5%), and dopamine agonists (3%) as well as inderal and mysoline. From 1998 to 2001 levodopa/carbidopa usage decreased to 41% of initial treatment prescriptions written by general neurologists, while initial treatment with dopamine agonists increased to 13%. The initial use of amantadine, anticholinergic medications, and selegiline also increased. PD specialists prescribed levodopa/carbidopa in 57% of initial prescriptions prior to 1998, but only in 8% of cases from 1998 to 2001.

Patients with PD aged 70 years and older, who were diagnosed prior to 1998, were not more likely to begin treatment with levodopa/carbidopa than those who were diagnosed after 1998 (RR=1.10, 95% CI 0.75-1.61). Prior to 1998, 80% of patients with PD were initially prescribed levodopa/carbidopa, 8% took selegiline, 8% received DAs and 4% entered a clinical trial. After 1998, 67% of older patients initially received levodopa/carbidopa, 10% were given selegiline, 5% were given amantadine, and 14% of patients took dopamine agonists.

Of all patients with PD surveyed, 73% took a dopamine agonist at some time during their illness. Of these, 34% were prescribed a dopamine agonist prior to 1998, while 66% were given dopamine agonists after 1998.

DISCUSSION

The findings from this cross-sectional study indicate that patients with PD under age 70, who were diagnosed prior to 1998, were almost twice as likely to receive levodopa/carbidopa as their initial medication when compared to those

diagnosed after 1998. In contrast, patients with PD aged 70 years and older, who were diagnosed prior to 1998, were not more likely to begin treatment with levodopa/carbidopa than those who were diagnosed after 1998. These findings suggest that younger patients with PD, in this community, may have been treated with a levodopa-sparing strategy in accordance with evidence that levodopa is associated with a higher risk of motor complications.[1,2]

In this survey, the second most common medication given to patients newly diagnosed with PD was selegiline, both pre- and post- 1998. Although the neuroprotective potential of selegiline has not been substantiated, 18% of patients were initially treated with this medication after 1998, a 15% increase over treatment prior to 1998. Anticholinergics were the third most common initial medication prescribed for PD prior to 1998. After 1998, dopamine agonists became the third most common initial medication prescribed.

The majority of patients with PD presented with more than 1 symptom when first visiting a physician; tremor, stiffness, and slowness were the 3 most common initial complaints. The initial diagnosis of PD took a relatively long period of time (over 2 years) in 25% of patients with PD, and was not made in 70% of patients until 2 or more physicians were consulted. The reasons for these findings are unclear, and are not explained by the specialty or number of doctors visited, the type or number of symptoms, or the age of the patient.

A cross-sectional study such as this one has several limitations. Data cannot be extrapolated to represent a larger or different geographic area. Patients with PD receiving care at a university setting may not be representative of people with PD in the community, and may have been evaluated and managed differently than those who were evaluated solely in a community setting. While we corroborated our data with retrospective chart reviews, recall bias may play a role in our findings.

This study indicates that initial treatment patterns for younger patients with PD may have changed in response to evidence demonstrating that the early use of levodopa hastens motor complications. Larger-scale multi-center studies are needed to provide a more comprehensive overview of the practice management of newly diagnosed PD.

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