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Letter to Editor

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Limited access to health care in patients with atypical parkinsonism during COVID-19 era may lead to higher mortality

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The ongoing coronavirus disease-2019 (COVID-19) pandemic can be challenging for patients with chronic neurological diseases such as parkinsonism.[1] Parkinsonism can be seen in a wide range of neurodegenerative diseases, including multiple system atrophy (MSA), progressive supranuclear palsy (PSP), and corticobasal syndrome (CBS)[2] which all are known as atypical parkinsonism. These patients may be at increased risk of COVID-19 and its complications because of their advanced age or multiple age-related comorbidities and reduced access to their routine medical care due to social isolation and prolonged quarantine.[1] Postponed outpatient appointments for medication adjustments, physical assessments, and surgical procedures during the COVID-19 era may cause worsening of symptoms and exacerbate disease progression that all increase patients' mortality rate during this emergency. Furthermore, the COVID-19 fatality rate may be different among patients with particular parkinsonism categories due to different rates of disease progression and severity of symptoms.[3]

We report mortality in patients with atypical parkinsonism during the current COVID-19 pandemic. The study is approved by the Ethical Committee of Shahid Beheshti University of Medical Sciences, Tehran, Iran (IR.SBMU.RETECH.REC.1398.439) and was performed based on a telephone-based questionnaire about patients' demographic information, parkinsonism, and history of COVID-19 infection [based on positive polymerase chain reaction (PCR) test].

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A control group including 233 healthy individuals with a mean age of 69.53 ± 7.78 years was included in this study to compare the incidence of COVID-19 in this group to the patient group.

Sixty-eight patients with atypical parkinsonism were frequently visited at the referral movement disorders clinic at Shohada-e-Tajrish Hospital, Tehran, from 2018 to 2020. The questionnaire was filled out for these 68 patients on January 2021, 11 months after the first COVID-19 case was reported from Iran (Table 1).

Eight patients (11.76%) reported a history of COVID-19 infection [six (15%) cases had PSP, and two (9.52%) cases had MSA]. The prevalence of COVID-19 in patients with PSP and MSA was not significantly different from each other (P > 0.10). It seems that the prevalence of COVID-19 infection in patients with atypical parkinsonism is not significantly different from healthy individuals in the control group, and patients' mean age and duration of the disease are not significantly different in those who were infected with COVID-19 and those who were not.

Interestingly, between 2018 and 2019, none of the patients with atypical parkinsonism died. On the other hand, mortality among the patients was 17.64% during the past 11 months [9 (22.5%) patients with PSP, 2 (9.52%) patients with MSA, and one patient with unspecified parkinsonism]. In other words, all of the deaths occurred during the pandemic in a 2-year follow-up. The mortality of patients with PSP (22.5%) was not significantly different from that of patients with MSA (9.52%) (P > 0.05); however, this result may be due to the low population of patients in each group. Since there was no significant difference between either the mean duration of the disease between survived (4.49 ± 2.52 years) and deceased patients (5.56 ± 2.18 years) or the mean age of these two groups (survived: 69.56 ± 6.15, deceased: 68.25 ± 5.80) (P > 0.05), other factors including access to health care may be involved in the cause of death rather than advanced age or severity of the disease.

Table 1. Information of patients with atypical parkinsonism

Parkinsonism categories					
Total	**PSP [n (%)]**	**MSA [n (%)]**	**CBS [n (%)]**	**Vascular type [n (%)]**	**Unclassified [n (%)]**
n = 68	40 (58.82)	21 (30.88)	1 (1.47)	1 (1.47)	5 (7.35)
Sex [n (%)]					
Men				43 (63.23)	
Women				25 (36.77)	
Age (year) (mean ± SD)					
Patients with atypical parkinsonism				69.61 ± 6.33	
Patients with PSP				68.95 ± 6.31	
Patients with MSA				69.14 ± 6.05	
Duration of the disease (year) (mean ± SD)					
Patients with COVID-19				3.85 ± 2.72	
Patients without COVID-19				4.52 ± 2.53	
Deceased patients				5.56 ± 2.18	
Alive patients				4.49 ± 2.52	
COVID-19 infection [n (%)]					
Total				8 (11.76)	
PSP				6 (15.00)	
MSA				2 (9.53)	
Death rate [n (%)]					
Total				12 (17.64)	
Patients with PSP				9 (22.50)	
Patients with MSA				2 (9.52)	
Unclassified patients				1 (20.00)	
Worsening of motor symptoms [n (%)]					
Total				23 (33.82)	
Patients with COVID-19				6 (75.00)	
Patients without COVID-19				17 (28.00)	

COVID-19: Coronavirus disease-2019; SD: Standard deviation; PSP: Progressive supranuclear palsy; MSA: Multiple system atrophy; CBS: Corticobasal syndrome

Worsening of motor symptoms was reported by 23 patients in total; among these patients, 6 patients had COVID-19 infection. The difference between the prevalence of motor symptoms worsening in the patients with parkinsonism who had and had not COVID-19 was not statistically significant (P = 0.051). This observation may rule out the possible physical or psychological effects of COVID-19 itself on the severity of the disease; however, 33.82% prevalence of motor symptoms worsening during the pandemic highlights the possibility of psychological complications of the pandemic itself or postponed medical care due to this condition, as remote management of diseases and telemedicine do not exist in Iran.[4,5]

In conclusion, our observation suggests that the condition of the current pandemic may lead to a higher mortality rate in patients with atypical parkinsonism, which can be due to patients' reduced access to their routine medical care and postponed treatment procedures during the era and not the COVID-19. Moreover, the mortality of our patients during the 2-year follow-up was higher than that reported in other similar studies, possibly because of the lack of remote management of chronic diseases and limited access to health care in Iran during the pandemic.[6,7]

Conflict of Interests

The authors declare no conflict of interest in this study.

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