Mild COVID-19 Disease Course With Protracted Delirium in a Cognitively Impaired Patient Over the Age of 85 Years

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The coronavirus disease 2019 (COVID-19) pandemic has swept across the world, causing a staggering number of deaths, particularly among older individuals.[1] The most common symptoms of COVID-19 are fever, dry cough, and shortness of breath, but delirium has been reported in older adults,[2] including those with preexisting neurodegenerative disorders.[3] Some researchers[4] have suggested that the occurrence of delirium has been underreported and that such inattention may be costly for older adults. Indeed, given that changes in cognition and attention (eg, delirium) are not listed as a prominent COVID-19 symptom by the Centers for Disease Control and Prevention (CDC), older patients with COVID-19 who present with such symptoms but without fever and respiratory distress may experience delays in treatment and may unintentionally expose others. Here, we present the clinical course of a patient >85 years with moderate dementia, multiple comorbidities, and COVID-19 that is characterized by prolonged delirium.

Case Report

The patient presented at home with a low-grade temperature that was below the CDC definition for fever. The patient experienced cough, confusion, and functional decline but was not screened for severe acute respiratory syndrome coronavirus 2 until 1 week later when the patient's primary care provider sought to rule out COVID-19. After testing positive for the virus, the patient was admitted to a COVID-19 unit for observation, primarily due to the patient's advanced age and delirium-related functional decline at home. At admission, the patient's vital signs were stable, and a laboratory panel was essentially normal except for abnormally elevated brain natriuretic peptide (Table 1). Four days later, the patient's hyponatremia and monocytosis persisted and the C-reactive protein level was significantly elevated. Unfortunately, given that the patient presented in the early phase of the pandemic, the remaining COVID-19 laboratory panel tests were not obtained (eg, D-dimer and interleukin-6).

Table 1. The Elderly Patient's Laboratory Assessments

Test	Result	Reference Range
Brain natriuretic peptide, N-terminal prohormone, pg/mL	2,555[a]	0–449
Magnesium, mg/dL	2.3	1.6–2.5
Anion gap, mEq/L	15	4–16
Urea nitrogen, mg/dL	12	6–20
Sodium, mEq/L	125[a]	133–145
Potassium, mEq/L	4.0	3.3–5.1
Chloride, mEq/L	88[a]	96–108
Carbon dioxide, mEq/L	23	22–29
Creatinine, mg/dL	0.63	0.50–1.20
Creatinine estimated glomerular filtration rate, mL/min/1.73 m^2	118	>60
Calcium, mg/dL	8.6	8.4–10.2
Phosphate, mg/dL	3.1	2.7–4.5
White blood cell count, k/uL	7.04	4.30–10.00
Red blood cell count, mil/uL	4.22[a]	4.40–5.60
Hemoglobin, g/dL	12.8[a]	13.0–18.0
Hematocrit, %	38.5	38.0–50.0
Mean corpuscular volume, fL	91.2	81.0–98.0
Mean corpuscular hemoglobin, pg	30.3	27.3–33.6
Mean corpuscular hemoglobin concentration, g/dL	33.2	32.3–35.7
Red cell distribution width, %	14.3	11.5–14.5
Red cell distribution width (standard deviation), fL	48.3[a]	36.5–45.9
Platelet count, k/uL	174	150–400
Neutrophil, %	68	40–74
Lymphocyte, %	19[a]	20–50
Monocyte, %	12.4[a]	0.0–8.0
Eosinophil, %	0	0–5
Basophil, %	0.3	0.0–2.0
Immunoglobulin, %	0.3	0.0–2.0
C-reactive protein, mg/L	203.6[a,b]	≤10.0

[a]Flagged as outside the reference range per Veterans Affairs.
[b]Test performed 4 days after admission.

The patient's predominant and persistent symptom continued to be delirium, but the patient did not experience other COVID-19 signs or symptoms. Twenty-two days later, after testing COVID-19 negative, the patient continued to be delirious but was considered sufficiently stable to be discharged to a skilled nursing facility. During a follow-up telephone visit more than 3 months after the initial positive test, delirium persisted, and the patient had not returned to baseline cognitive or functional status. The majority of the

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clinical information provided here was obtained via chart review and telephone calls, given the restrictions placed on in-person clinical research visits during the COVID-19 pandemic.

Discussion

This case highlights the variability of symptom presentation in COVID-19 in patients of advanced age and offers additional evidence that altered mental status should be considered a cardinal symptom of COVID-19 in such individuals.[5] Although delirium is known to be associated with respiratory viral infections in older individuals, the persistence of delirium over 3 months is unusual. Protracted delirium is typically associated with postcardiac operative states[6] and not with viral infections. Additional prospective studies are necessary to better understand the range of symptoms and delirium in COVID-19 in older adults.

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