The Importance of Delirium and Delirium Prevention in Older Adults During Lockdowns

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The SARS-CoV-2 outbreak was declared a pandemic on March 11, 2020. Although COVID-19 poses a risk at all ages, adults 65 years and older are at greatest risk of severe disease, hospitalization, intensive care use, and death. Globally, persons older than 65 years comprise 9% of the population, but account for 30% to 40% of COVID-19 cases. As of March 3, 2021, the Centers for Disease Control and Prevention reported that of the 494,235 total US deaths from COVID-19, 400,228 (81%) occurred in persons older than 65 years.1

Importance of Delirium in COVID-19
During the pandemic, delirium emerged as a well-recognized complication of COVID-19, with particular importance due to its high prevalence and mortality, significance as a presenting sign that is easily missed, and preventable nature. Delirium, also referred to as acute brain failure, is a common presenting symptom of any severe illness in older adults. Given this, it is not surprising that delirium is a common accompaniment of severe COVID-19 in older adults. Recent studies have described occurrence rates of 25% to 37% in hospitalized patients not in the intensive care unit (ICU) and greater than 65% in patients in the ICU.2-4 Development of delirium in patients with COVID-19 has been associated with a poor prognosis with increased mortality, even after controlling for comorbidity and illness severity.4,6

Delirium is an important presenting symptom of infection with COVID-19 in older adults. It can be a common, if atypical, presentation and can be the only presenting symptom. A 2020 study6 found that delirium was present in 28% of 817 older adults with COVID-19 who presented to the emergency department and was the sixth most common of all presenting symptoms. Of 226 patients with delirium, 16% had delirium as their primary symptom and, importantly, 37% had no typical COVID-19 symptoms (eg, fever, cough, shortness of breath).5 However, delirium is not included in the Centers for Disease Control and Prevention case report criteria for COVID-19 and is often unrecognized by healthcare professionals. The first and most important step in management of delirium is its recognition. Many brief screening instruments are available. The Ultra-Brief Confusion Assessment Method provides a brief cognitive assessment and observer rating that can be completed in less than 1 minute to screen for delirium in high-risk settings for older adults, such as an emergency department, hospital, ICU, or nursing home.7

Etiology of Delirium in COVID-19
COVID-19 contributes to delirium by many brain pathways.8 Although direct neurologic invasion of the central nervous system compartment occurs, cerebrospinal fluid and autopsy studies indicate that it is quite uncommon. Major contributors appear to include the cytokine storm and immune dysregulation accompanying COVID-19, which triggers neuroinflammation (in brain and meninges) and hypercoagulability. The hypercoagulable state contributes to cerebral infarction in 1% to 3% of hospitalized patients with COVID-19, more often from large than small vessel involvement. Severe COVID-19 infection has been associated with multiorgan system involvement, including respiratory failure with prolonged hypoxemia and kidney, liver, and cardiac failure, with accompanying metabolic derangements. Moreover, patients with severe illness from COVID-19 have many other precipitating factors that can contribute to delirium, such as multiple medications with psychoactive effects, mechanical ventilation, ICU stay, immobility, malnutrition, sleep disruption, social isolation, and emotional stress. Even during the COVID-19 pandemic, delirium is multifactorial and reversible factors may be contributing.

The Hospital Environment and Delirium During COVID-19
During the COVID-19 pandemic, mandated infection control procedures in hospitals and ICUs have resulted in a confluence of conditions9 that predispose to the development of delirium in vulnerable older persons. First, the ban of family members and informal caregivers who would normally provide care and comfort at the bedside has resulted in intense social isolation. Second, staff are often rushed and stressed and are wearing protective equipment that masks faces and muffles voices, making communication and human connection difficult, particularly for those with hearing or vision impairments. To minimize exposure, nursing staff often limit the number of times they enter patients’ rooms, leaving prolonged periods where older patients are alone and isolated. Moreover, potentially harmful psychoactive medications, such as sedatives and antipsychotics, are being widely prescribed to minimize anxiety, but also because of concerns about spreading infection through agitation or wandering behaviors.

These factors are exactly the opposite of strategies known to be effective for prevention and management of delirium,10 including presence of family and staff to provide comfort, communication, and connection; regular orientation and therapeutic activities; frequent mobilization and exercise; and avoidance of psychoactive medications in favor of nonpharmacologic approaches for anxiety and sleep. The importance of social connection and engagement—the human elements of care—cannot be underestimated.

Delirium Interventions During COVID-19
During the COVID-19 pandemic, reversible contributors to delirium must be addressed, and approaches for delirium prevention and management can be built into routine clinical care. Many
hospitals with delirium prevention programs, such as the Hospital Elder Life Program, have developed creative approaches to provide necessary interventions (Table). The use of toolkits or activity boxes delivered to patients’ rooms, tablet computers for remote coaching and communication by trained staff or volunteers, and remote visits with family members can provide much needed orientation, communication, and comfort throughout hospitalization. These approaches can and should be used in those with delirium risk factors, regardless of whether they are affected with COVID-19.

Delirium is of heightened importance during the COVID-19 pandemic, with the disease disproportionately affecting older adults. The ability to recognize and manage delirium will directly affect clinical outcomes in this population. All older patients with suspected COVID-19 infection should be screened for delirium, because atypical presentations are typical in all older adults and because delirium is the sixth most common presenting symptom in older adults with COVID-19. Delirium remains multifactorial, with important reversible contributors. Nonpharmacologic multi-component strategies remain the mainstay of prevention and management, and finding creative ways to build a “new normal” for care of older adults will be essential. Approaches involving family members—remotely or with careful in-person visits—will be critical to provide comfort, communication, and connection for older adults. Families should be involved as part of the caregiving team to enhance both short-term and long-term outcomes of delirium for this vulnerable population.

### References