

Covid-19 Infection in Older Adults: A Geriatrician's Perspective

This article was published in the following Dove Press journal:
Clinical Interventions in Aging

Ahmet Turan Isik 

Department of Geriatric Medicine,
Faculty of Medicine, Dokuz Eylul
University, Balcova, Izmir, Turkey

Abstract: The pandemic of the Covid-19 virus has become the main issue all over the world. In its current form, the disease is more severe in geriatric cases and individuals with chronic disease, even causing death. In older adults and atypical presentations, testing strategies for Covid-19, potential drug interactions of experimental Covid-19 therapies, and ageism are important issues in the course of the disease. Therefore, health-care professionals should be aware of these, and screening policies for Covid-19 should also include atypical presentations with or without classical symptoms of the illness in older adults. Furthermore, evaluation of individuals > 65 years of age from a geriatrician's perspective is very important, because Covid-19 is severe and fatal in seniors.

Keywords: Covid-19 infection, pandemic, older adults, atypical presentation

The pandemic of the Covid-19 virus has become the main issue all over the world. Regarding the subject, authorities are making an intense effort to minimize the effects of the pandemic. In its current form, the disease is more severe geriatric cases and individuals with chronic disease, even causing death.^{1,2} Regarding the severe course of the disease in the elderly, I would like to draw attention to some issues related to the diagnosis of Covid-19 infections in older patients.

First, preventive interventions are the most important issue in the fight against the infection. Additionally, with Covid-19 infection, it should be underlined that the disease is not only fatal in seniors but also that the majority of patients who need intensive care and die are elderly people. Typical findings in patients with Covid-19 infections, as in other pulmonary infections, are fever, cough, and dyspnea.¹⁻⁴

Infectious diseases, more common in older adults, may progress more severely than in young people. Such diseases may show atypical presentations in older patients, which should be considered in this regard.^{2,3} Older patients, especially frail ones with multiple comorbidities, may not show typical symptoms, such as fever, cough, chest discomfort, or excessive sputum production in pulmonary infections as much as young people do, and thus atypical presentations may be an important issue that causes delayed diagnosis of Covid-19 infections.⁴ These typical symptoms occur in less than 50% seniors, but they may show such symptoms as confusion or acute mental changes, frequent falls, decreased walking/mobility, unexplained tachycardia or decrease in blood pressure, decreased appetite, difficulty swallowing, and new-onset incontinence. Among these, acute mental changes and tachypnea are more common in infectious diseases, such as pulmonary infections, in older people, who cannot produce a fever response as much as young people.^{4,5,7}

Correspondence: Ahmet Turan Isik
Department of Geriatric Medicine, School
of Medicine, Dokuz Eylul University,
Geriatric Bilim Dalı Dokuz Eylul
Universitesi Tıp Fakültesi, Balcova 35340,
Izmir, Turkey
Tel +90 232 412 4341
Fax +90 232 412 43 49
Email atisik@yahoo.com

The fact that these symptoms can be seen in many diseases other than infectious disease plays an important role in delaying diagnosis in geriatric cases. Also, frequent sensory loss, dementia, and polypharmacy in this age-group make it difficult to get an appropriate disease history from older individuals.^{4,5} Diagnosis of the infection is easy to achieve with computed tomography, nasopharyngeal swabs, and laboratory tests, but the fact that symptoms of patients are a guide in deciding which patient to test for Covid-19 should not be ignored. Therefore, it should be kept in mind that older patients with Covid-19 show both typical and atypical symptoms.

Absence of fever may not exclude the infection,⁸ as the elderly may not have a fever, which is one of the main symptoms to test for with Covid-19. For example, traditionally defined as a body temperature $>38^{\circ}\text{C}$, fever is absent or blinded in almost a third of older patients with acute infection.⁹ Diminished thermoregulatory capacity and abnormal production and response to endogenous pyrogens with aging may be partly to blame. In older patients with infections, such as moderate–severe pneumonia, admitted to the clinic, the average temperature in the first 3 days of the disease decreases by 0.15°C every 10 years,^{5,10} which is well known as “older is colder”. In addition, body temperatures of healthy older people tend to be lower than young people.^{5,6,10,11} In evaluation of fever in the elderly, recurrent oral or tympanic body temperature $>37.3^{\circ}\text{C}$ and an increase $>1.1^{\circ}\text{C}$ above basal body temperature would be more realistic.^{6,12} However, hypothermia can be a sign of a serious life-threatening infection.^{5,11}

In a study examining the cases in Wuhan, China, the origin of the infection, it was reported that the disease progresses more severely and even causes deaths, especially in older patients and individuals with chronic diseases. Likewise, in this study, it was noteworthy that fever was detected at similar rates in those who were discharged and those who died, when fever was defined as $>37.3^{\circ}\text{C}$.³ On the other hand, another study, conducted in China, reported that older individuals with Covid-19 did not show the fever response as much as young people,¹³ which may be related to definition of the fever. Moreover, Wang et al found that those who needed intensive care due to the Covid-19 were older, and that atypical findings for acute lung infection, such as weakness, dizziness, nausea/vomiting, diarrhea, abdominal pain, and loss of appetite appeared approximately 6.5 days before dyspnea.¹⁴ Considering that this period is 2.5 days in Covid-19 patients who do not need

intensive care and are younger, the fact that dyspnea occurs approximately 6.5 days after the first symptom¹⁴ is also striking in terms of the importance of atypical presentations. Therefore, in research it should be kept in mind that atypical presentations of the disease may cause delays in admission or diagnosis of those who required ICU care or died.

In light of these findings, it can be said that age-related immune-system changes, comorbid conditions, and atypical presentations make it difficult to recognize the early diagnosis of Covid-19 infection in geriatric cases, and the disease may cause more severe or even mortality in these cases. Furthermore, the fact that testing strategies for Covid-19 have not included asymptomatic patients or older patients with atypical presentations, which may also have contributed to those results in older adults.^{1,2} Additionally, in evaluating these findings, we should not overlook the possibility that a large number of Covid-19–infected patients and the limited medical-care capacity available in the world may be causing geriatric cases to be deprived of the necessary medical care, which is called ageism or age discrimination. Another important issue to keep in mind in this patient group, who are vulnerable to adverse drug effects, is that experimental Covid-19 therapies, especially with main adverse events of chloroquine, such as hypoglycemia, electrolyte imbalance, arrhythmia, neuromuscular pain, irritability, delirium, granulocytopenia, irreversible visual impairment, gastrointestinal symptoms, and potential drug–drug interactions, may have a negative effect on the course of the disease, due to potential drug interactions.^{15,16}

Finally, atypical presentations, testing strategies for Covid-19, potential adverse events of experimental Covid-19 therapies, especially in chloroquine, and ageism are important issues in the course of the disease in seniors. Therefore, health-care professionals should be aware of these, and screening policies for Covid-19 should also include the aforementioned atypical presentations with or without classical symptoms of the illness in older adults. Furthermore, while Covid-19 is severe and fatal in older adults, evaluation of individuals over 65 years of age with a geriatrician’s perspective is very important.

Funding

There is no funding to report.

Disclosure

The author reports no conflicts of interest in this work.

References

1. Onder G, Rezza G, Brusaferro S. Case-fatality rate and characteristics of patients dying in relation to COVID-19 in Italy. *JAMA*. 2020. doi:10.1001/jama.2020.4683
2. Dosa D, Jump RLP, LaPlante K, Gravenstein S. Long-term care facilities and the coronavirus epidemic: practical guidelines for a population at highest risk. *J Am Med Dir Assoc*. 2020;21(5):569–571. doi:10.1016/j.jamda.2020.03.004
3. Zhou F, Yu T, Du R, et al. Clinical course and risk factors for mortality of adult inpatients with COVID-19 in Wuhan, China: a retrospective cohort study. *Lancet*. 2020;395(10229):1054–1062. doi:10.1016/S0140-6736(20)30566-3
4. D'Adamo H, Yoshikawa T, Ouslander JG. Coronavirus disease 2019 in geriatrics and long-term care: the ABCDs of COVID –19. *J Am Geriatr Soc*. 2020;68(5):912–917. doi:10.1111/jgs.16445
5. Liang SY. Sepsis and other infectious disease emergencies in the elderly. *Emerg Med Clin North Am*. 2016;34(3):501–522. doi:10.1016/j.emc.2016.04.005
6. Singler K, Bertsch T, Heppner HJ, et al. Diagnostic accuracy of three different methods of temperature measurement in acutely ill geriatric patients. *Age Ageing*. 2013;42(6):740–746. doi:10.1093/ageing/aft121
7. Girard TD, Opal SM, Ely EW. Insights into severe sepsis in older patients: from epidemiology to evidence-based management. *Clin Infect Dis*. 2005;40(5):719–727. doi:10.1086/427876
8. Caterino JM, Kline DM, Leininger R, et al. Nonspecific symptoms lack diagnostic accuracy for infection in older patients in the emergency department. *J Am Geriatr Soc*. 2019;67(3):484–492. doi:10.1111/jgs.15679
9. Norman DC. Fever in the elderly. *Clin Infect Dis*. 2000;31(1):148–151. doi:10.1086/313896
10. Roghmann MC, Warner J, Mackowiak PA. The relationship between age and fever magnitude. *Am J Med Sci*. 2001;322(2):68–70. doi:10.1097/00000441-200108000-00003
11. Waalen J, Buxbaum JN. Is older colder or colder older? The association of age with body temperature in 18,630 individuals. *J Gerontol a Biol Sci Med Sci*. 2011;66A(5):487–492. doi:10.1093/gerona/glr001
12. High KP, Bradley SF, Gravenstein S, et al. Clinical practice guideline for the evaluation of fever and infection in older adult residents of long-term care facilities: 2008 update by the Infectious Diseases Society of America. *Clin Infect Dis*. 2009;48(2):149–171. doi:10.1086/595683
13. Liu K, Chen Y, Lin R, Han K. Clinical feature of COVID-19 in elderly patients: a comparison with young and middle-aged patients. *J Infect*. 2020. doi:10.1016/j.jinf.2020.03.005
14. Wang D, Hu B, Hu C, et al. Clinical characteristics of 138 hospitalized patients with 2019 Novel Coronavirus-infected pneumonia in Wuhan, China. *JAMA*. 2020;323(11):1061. doi:10.1001/jama.2020.1585
15. COVID-19 Drug Interactions. Liverpool: evaluating the drug-drug interaction risk of experimental COVID-19 therapies; 2020. Available from: <https://www.covid19-druginteractions.org>. Accessed June 21, 2020..
16. Sun X, Li S, Li K, Hu X. Pharmaceutical care of chloroquine phosphate in elderly patients with coronavirus pneumonia (COVID-19). *Aging Med*. 2020;2020:1–4. doi:10.1002/agsm.12104

Clinical Interventions in Aging

Publish your work in this journal

Clinical Interventions in Aging is an international, peer-reviewed journal focusing on evidence-based reports on the value or lack thereof of treatments intended to prevent or delay the onset of maladaptive correlates of aging in human beings. This journal is indexed on PubMed Central, MedLine, CAS, Scopus and the Elsevier

Bibliographic databases. The manuscript management system is completely online and includes a very quick and fair peer-review system, which is all easy to use. Visit <http://www.dovepress.com/testimonials.php> to read real quotes from published authors.

Submit your manuscript here: <https://www.dovepress.com/clinical-interventions-in-aging-journal>

Dovepress