References

1. Louisiana Department of Health. COVID-19 Long-Term Care Facilities. Available at: https://ldh.la.gov/index.cfm/page/3965. Accessed January 21, 2021.
2. New York Times. COVID-19 data. Available at: https://raw.githubusercontent.com/nytimes/covid-19-data/master/us-counties.csv. Accessed January 21, 2021.

Thomas A. Reilly, MD, FACP*
Private Practice in Geriatric Medicine, Shreveport, LA, USA
* Address correspondence to Thomas A. Reilly, MD, FACP,
Shreveport Geriatrics, Shreveport, LA 71101.
E-mail address: tareilly@shreveportgeriatrics.com

Weight Loss in COVID-19–Positive Nursing Home Residents

To the Editor:

Coronavirus Disease 2019 (COVID-19) has had an impact on nutrition at individual, community, national, and global levels.[1] COVID-19 has been associated with weight loss and also has been linked to cachexia and sarcopenia.[2] Anorexia was the most common symptom during COVID-19 infection among patients at an academic long-term chronic care facility, with 70.8% of residents developing anorexia during the illness course.[3] In addition to effects of the disease itself, there are potential unintended consequences of infection control measures. A study of residents in a nursing home without a COVID-19 outbreak in the month following implementation of restrictions on visitors and group dining designed to mitigate the spread of COVID-19 showed significant weight loss among residents.[4]

We conducted a retrospective chart review assessing the outcome of a COVID-19 outbreak on resident weights in a >200-bed skilled nursing facility (SNF) in Chicago, IL. The medical charts of each resident in the facility between March 1, 2020, and May 31, 2020, were reviewed in the electronic medical record (EMR) (PointClickCare) at the SNF and the affiliated academic medical center (Epic, 2020 Epic Systems Corporation). Among the residents included in the sample (n = 209), the average age was 75.3 years (SD = 11.9 years); residents were predominantly Black (93.3%) and women (56.0%). Hypertension (89.5%) and cognitive impairment (67.9%) were the most common chronic conditions present, followed by cardiac disease (43.5%) and diabetes (39.2%).There was no significant difference in age, race, gender, or comorbidities between the COVID-positive (n = 172) and COVID-negative groups (n = 32). Prevalence testing was completed for all residents in the facility twice at 7-day intervals in addition to as-needed testing based on symptoms and exposure.[5] The results of severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) polymerase chain reaction

Table 1
Weight Change in COVID-Positive and COVID-Negative Groups

	COVID-19 Positive	COVID-19 Negative	P Value
	Mean (SD) Median n	Mean (SD) Median n	
Starting weight (lb)	161.4 (53.4) 153.0 n = 169	146.7 (38.3) 141.6 n = 32	.20
Weight change (end to start; lb)	−7.8 (12.1) −5.8 n = 162	−3.6 (5.9) −3.3 n = 32	.048
% weight change	−4.6 (7.1) −3.8 n = 162	−2.4 (3.7) −2.2 n = 32	.06
% weight change per month	−2.4 (4.4) −1.8 n = 162	−1.9 (3.5) −1.3 n = 32	.20
Time between 2 weight measurements (mo)	2.1 (0.6) 2.2 n = 162	2.0 (0.7) 2.0 n = 32	.52

(Roche, Basel, Switzerland) nasopharyngeal swab testing were recorded. The first weight after March 1, 2020, and the last weight on or before May 31, 2020, were recorded along with the duration between the 2 weights. Of the 209 residents in the SNF during the study period, 194 residents had both a starting weight and an end weight recorded within this 3-month period. Weight change was stratified by COVID-19 result status.

Mean starting weight for the COVID-positive group was 161.4 lb (n = 169) and mean starting weight for the COVID-negative group was 146.7 lb (n = 32) (P = .20) (Table 1). Mean time between weight measurements was similar for both groups (COVID-positive = 2.1 months, COVID-negative = 2.0 months, P = .52). Both groups experienced a decrease in weight during the study period. COVID-positive residents with both a start and end weight (n = 162) experienced a mean weight loss of 7.8 lb and residents in the COVID-negative group (n = 32) experienced a mean weight loss of 3.6 lb (P < .05). Adjusted for percent weight change over the study period, the COVID-positive group experienced weight loss of 4.6% from starting weight and the COVID-negative group experienced weight loss of 2.4% (P = .06).

This study found weight loss among both COVID-positive and COVID-negative residents in a nursing home population after a widespread COVID-19 outbreak. Residents who were COVID-positive had both a larger absolute weight loss and trended toward a larger percentage weight loss. This is the first study, to our knowledge, that shows clinical evidence of a consistent weight loss trend in an SNF population during and after a COVID-19 infection that is distinct from weight loss related to restrictive infection control measures. The etiology of weight loss in this population is likely multifactorial. In addition to previously proposed theories of increased metabolic demand associated with the inflammatory process of SARS-CoV-2 viral infection,[2] the COVID-19 associated symptoms of anorexia, fatigue, delirium, nausea/vomiting, and sore throat[3] likely further exacerbate dementia, dysphagia, and poor oral intake that are common in a multimorbid nursing home population. Furthermore, increased isolation and decreased activity levels due to infection control restrictions, such as visitor restriction and dining hall closure likely also contribute to increased weight loss.

Weight loss in older adults has been associated with mortality overall[6] and is a common feature of other geriatric syndromes. These findings support the call to proactively address COVID-19–associated weight loss as part of a COVID-19 management strategy at SNFs. Creative strategies and policies are needed to ensure residents receive adequate mealtime support, symptom management, weight monitoring, and comprehensive nutrition assessments. Limitations of this study include a single site and a relatively small number of individuals in the COVID-negative group, which may have limited the ability to detect significant differences between the 2 groups. Further research is needed on the

mechanism of COVID-19–associated weight loss as well optimal strategies for identification, prevention, and treatment of COVID-19–associated weight loss.

Acknowledgments

References

1. Naja F, Hamadeh R. Nutrition amid the COVID-19 pandemic: A multi-level framework for action. Eur J Clin Nutr 2020;74:1117–1121.
2. Morley JE, Kalantar-Zadeh K, Anker SD. COVID-19: A major cause of cachexia and sarcopenia? J Cachexia Sarcopenia Muscle 2020;11:863–865.
3. Shi SM, Bakaev I, Chen H, et al. Risk factors, presentation, and course of COVID-19 in a large, academic long-term care facility. J Am Med Dir Assoc 2020;21: 1378–1383.e1.
4. Danilovich MK, Norrick CR, Hill KC, Conroy DE. Nursing home resident weight loss during Coronavirus Disease 2019 restrictions. J Am Med Dir Assoc 2020;21: 1568–1569.
5. Collison M, Beiting K, Walker J, et al. Three-tiered COVID-19 cohorting strategy and implications for memory care. J Am Med Dir Assoc 2020;21:1560–1562.
6. Newman AB, Yanez D, Harris T, et al. Weight change in old age and its association with mortality. J Am Geriatr Soc 2001;49:1309–1318.

Michelle Martinchek, MD, MPH
Department of Medicine, Section of Geriatrics and Palliative Medicine, University of Chicago, Chicago, IL, USA

Department of Physician Assistant Studies, School of Health and Rehabilitation Sciences, MGH Institute of Health Professions, Boston, MA, USA

Kimberly J. Beiting, MD*, Jacob Walker, MD, Jeffrey Graupner, MPH, Megan Huisingh-Scheetz, MD, MPH, Katherine Thompson, MD, Lauren J. Gleason, MD, MPH, Stacie Levine, MD
Department of Medicine, Section of Geriatrics and Palliative Medicine, University of Chicago, Chicago, IL, USA
* Address correspondence to Kimberly J. Beiting, MD, University of Chicago, 5841 S. Maryland Avenue, MC 6098, Chicago, IL 60637.
E-mail address: Kimberly.Beiting@uchospitals.edu (K.J. Beiting)

Should We Prescribe Antibiotics in Older Patients Presenting COVID-19 Pneumonia?

To the Editor:

The COVID-19 pandemic is responsible for a particularly high level of morbidity in the older population.[1] Most deaths are the result of severe viral pneumonia, for which therapeutic management is still a matter of debate. Corticosteroids are to date the only therapeutic class that has proven benefit in terms of mortality in hypoxemic SARS-CoV-2 pneumonia,[2] whereas the benefit of tocilizumab remains unclear.[3] However, such therapeutics are associated with increased risk of bacterial infection, especially among older individuals. Moreover, the distinction between bacterial and viral pneumonia is particularly difficult, and

coinfections have been highlighted, although in limited proportions.[4–6] There is currently no distinctive tool to conclusively distinguish SARS-CoV-2 pneumonia from viral-bacterial coinfections, and atypical symptoms are particularly frequent in older patients.[7] Recent guidelines suggest a restrictive use of antibacterial drugs in patients with COVID-19.[6,8] However, the level of evidence for such recommendations is very low, and antibiotics are widely prescribed in practice,[4,5] especially in older patients.[9]

To our knowledge, whether systemic antibiotic therapy should be prescribed in acute pneumonia patients testing positive for COVID-19 has not been evaluated yet in a geriatric setting. In a multicenter retrospective cohort study of older patients with a SARS-CoV-2 pneumonia, we sought to assess whether the use of antibiotics was associated with lower mortality.

We included 124 consecutive patients aged ≥75 years hospitalized from March 1 to May 1, 2020, in 4 hospitals of one of the French regions most affected by the first wave of COVID-19. Patients had radiology-proven pneumonia and tested positive for SARS-CoV-2 (Real-Time Polymerase Chain Reaction Novodiag; Movidiag, Espoo, Finland). We compared mortality 1 month after admission between patients with and without antibiotic treatment (Supplementary Material).

Pneumonia was defined according to the American guidelines, in the acute presence of (1) 2 or more of the following signs: new cough, sputum production, dyspnea, pleuritic pain, abnormal temperature ($<35.6°C$ or $>37.8°C$), or altered breathing sounds on auscultation and (2) a new infiltrate on chest imaging.[10]

Of the 124 patients with pneumonia, 102 (82%) received antibiotics and 22 received none. The 2 groups were similar in terms of sex (male 52% vs 48%, $P = .9$), age [median age (interquartile range): 85 (81-89) vs 86 (83-90), $P = .4$] and comorbidities [median Charlson Comorbidity Index: 2 (1-4) vs 3 (2-4), $P = .2$]. However, patients with antibiotics had more severe presentation (severe or critical pneumonia according to WHO criteria[10]: 49% vs 23%, $P = .02$). Alveolar condensation was identified on the CT scan in 38% and 27%, respectively ($P = .3$). The antibiotic regimens included third-generation cephalosporins (3GC) (75 patients), macrolides (50 patients), penicillin + beta-lactamase inhibitor (40 patients), and fluoroquinolones (9 patients). Antibiotic associations were frequent, especially 3GC with macrolides (45 patients).

Fig. 1. One-month survival after admission for SARS-CoV-2 pneumonia in older patients with or without antibiotics.