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Dementia as a risk factor for aspiration in patients with COVID-19

Dear Editor,

We read a recent report in this journal that focused on the effects of dementia on mortality in patients with coronavirus disease 2019 (COVID-19).[1] In general, dementia can be confounded by age or other comorbidities when assessing prognostic factors, but the report indicated that dementia was significantly associated with mortality, even after adjusting for these variables.

However, it is hard to imagine that dementia is a direct cause of death in patients with COVID-19. Dementia is a risk factor for swallowing dysfunction and aspiration.[2] Presumably, dementia may cause aspiration pneumonia, which in turn might increase mortality. We have published a systematic review demonstrating that aspiration risks are associated with poor prognosis in patients with community-acquired pneumonia.[3] This association might be common in patients with severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) pneumonia.

While SARS-CoV-2 infection has been reported to affect neuromuscular function,[4] whether it specifically weakens the swallowing function is still uncertain. However, it is conceivable that an altered level of consciousness with fever and fatigue may be a risk factor for aspiration. We used the repetitive saliva swallowing test (RSST) to assess changes in the swallowing function of a middle-aged man with COVID-19 and a history of brainstem infarction. RSST is a screening test in which the patient is asked to swallow saliva as many times as possible for 30 s, and deglutition is counted through palpation of the larynx.[5] For this patient, the RSST revealed a depressed swallowing function (2 swallows/30 s) 10 days after the onset of the disease (day 10); the patient's score increased to 3 swallows/30 s on day 15, after his body temperature had returned to normal on day 13. During a follow-up visit on day 42, the patient's swallowing function had recovered (5 swallows/30 s), as shown in Figure 1.

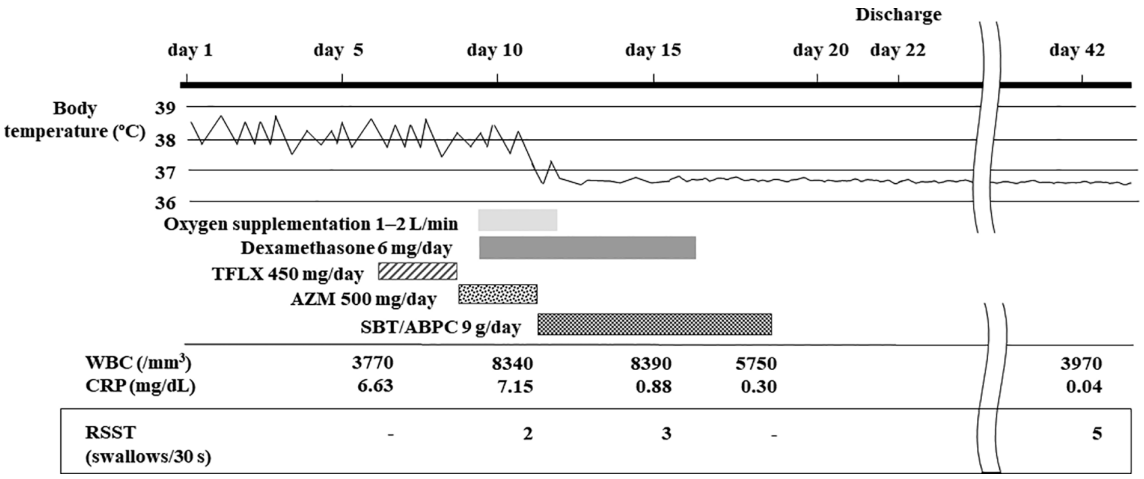

Figure 1 Clinical course of coronavirus disease 2019 in a patient subjected to the repetitive saliva swallowing test (RSST). AZM, azithromycin; CRP, C-reactive protein; SBT/ABPC, sulbactam/ampicillin; TFLX, tosufloxacin; WBC, white blood cell.

Not only SARS-CoV-2 infection but also most other infectious diseases can decrease the level of consciousness and possibly cause a deterioration in the swallowing function.[6] Especially among patients having risk factors for aspiration, such as dementia or a history of brainstem infarction, potential swallowing dysfunction might become clinically evident following SARS-CoV-2 infection. These comorbidities are likely to be confounded by risk factors for aspiration, which might predict the prognosis in patients with COVID-19.

Disclosure statement

All authors have stated that there are no conflicts of interest in connection with this article.

Hiroki Yoshikawa,[1] Kosaku Komiya,[1] Ryosuke Hamanaka,[1] Kazufumi Hiramatsu[2] and Jun-ichi Kadota[1]
[1]Department of Respiratory Medicine and Infectious Diseases, Oita University Faculty of Medicine, Yufu, Japan
[2]Department of Medical Safety Management, Oita University Faculty of Medicine, Yufu, Japan

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Video intervention for end-of-life care

Dear Editor,

We read with great interest the recent article by Lin *et al*. regarding video intervention for advance care planning (ACP) and advance directives (ADs). This was a randomized controlled trial that examined if a video-based ACP intervention in hospitalized elderly patients improved their knowledge base and, ultimately, their likelihood of signing an AD.[1] Between June 2014 and June 2015, patients from two geriatric wards in Northern Taiwan were placed either in an intervention group that watched a single 5-min video about the importance of ACP or in a control group that did not watch the video. The video was a miniature drama in which a character had recently signed an AD and discusses ACP and ADs with two friends. The story follows the two friends' experiences with hospitalization and mental incapacity. The authors found that the video intervention significantly increased awareness and knowledge of ACP among the participants and significantly increased the rate of AD signing.

We view this study as important because it demonstrates a feasible and effective quick aid in educating patients within hospitals about ACP prior to significant deterioration of medical illness and/or mental capacity. Previously, lack of knowledge has been cited as the main reason for non-completion of ADs and ACP.[2] We noticed that in the Lin *et al*. study, the authors used a single 5-min video in drama format that included the emotional aspects of watching characters experience hospitalization and mental incapacity. We suggest that a future study could add a third group to see if there is a potential difference in video intervention efficacy among a control group, a similar 5-min video in a drama format, and a 5-min video in which a trained professional provides an informational presentation.

According to Silveira *et al.*, many elderly adults lack the capacity to make decisions when they need to. Patients who had prepared ADs received care that aligned with their own wishes, which more often than not included palliative care over aggressive treatments.[3] For most people, end-of-life care is provided not by hospice and palliative medicine specialists, but rather by their primary care providers.[4] Therefore, incorporating a video intervention aid in the primary care practice will provide early exposure of ACP for many, including those living with dementia.[5,6] Existing studies reveal that when physicians proactively discuss end-of-life concerns with persons living with dementia and their loved ones, the family members feel better prepared to make future decisions, and the persons living with dementia are put at ease, knowing that their wishes will be carried out.[7] In the Lin *et al*. study, the video intervention was given to patients who were already in geriatric wards.[1] We believe that a future study should extend a similar video intervention to the office of a primary care physician and measure the rate of AD signing and the patients' understanding of ACP when they are admitted to a geriatric ward.

Disclosure statement

The authors declare no conflict of interest.