Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

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Prognostic role of nutritional status in elderly patients hospitalized for COVID-19

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Dear Editor,

We read with great interest the article by Lidoriki et al. [1] about nutritional and functional status as a prognostic factors in elderly patients with novel coronavirus disease 2019 (COVID-19).

The authors, mentioning previous studies [2,3], propose a prognostic association between nutritional and functional status of patients and prognosis after COVID-19 infection.

We want to share our preliminary data which seem to confirm this hypothesis which we believe strongly.

A prospective study assessing prognostic factors in the elderly with COVID-19 is ongoing in our Center. To date, we consecutively enrolled 37 patients aged ≥ 65 years admitted to the Geriatric ward with COVID-19 diagnosis. The median age was 82 years (IQR 74.5–93.5). Demographics, laboratory exams, past medical history and the clinical findings were collected. We compared these characteristics between the group of patients experiencing or not in-hospital death (Table 1).

In our population, 11 (29.7%) patients underwent in-hospital death. We found a significantly lower Body Mass Index (BMI) in the in-hospital death group (p = 0.036), probably due to a worsened "nutritional status" of that group.

A prognostic role of nutritional parameters in COVID-19 elderly patients may also be suggested by lower median value of albumin in the "in-hospital death" group, although this difference was not statistically significant in our interim analysis, maybe due to the sample size.

Thus, according to our preliminary results, we support the hypothesis of Lidoriki et al. [1] about the prognostic role of nutritional status in elderly patients with the diagnosis of COVID-19.

In our opinion, a wide assessment of the nutritional status should be taken into account for setting correct management of elderly COVID-19 patients.

Future larger studies, on hospitalized elderly patients with COVID-19 should assess the nutritional status of patients in order to understand the real impact of this risk factor on disease-related mortality in the short term.

Statement of human and animal rights and informed consent

The study was conducted according to the declaration of Helsinki's ethical principles for medical research involving human subjects. The protocol was reviewed and approved by the Ethics Committee of the S. Orsola-Malpighi Hospital. Patient informed consent was obtained for each patient.

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Table 1
Differences in demographics, laboratory exams at admission, past medical history and clinical findings undergoing or not to in-hospital death.

	Survivors (n = 26), n (%) or median (IQR)	In-hospital death (n = 11), n (%) or median (IQR)	*p*
Male	15 (57.7)	4 (36.4)	0.235
Age	80.5 (73.7–92.2)	90 (82–95)	0.083
Length of hospitalization, days	7 (5–10.2)	8 (5–13)	0.854
BMI, kg/m^2	24.9 (22.7–28.3)	22.9 (21.7–23.7)	0.036
Charlson comorbidity index	4 (0.7–7)	5 (4–7)	0.305
ADL	3 (0–6)	1 (0–6)	0.624
IADL	1.5 (0–8)	0 (0–8)	0.379
Hypertension	17 (65.4)	6 (54.5)	0.534
Chronic kydney disease	3 (11.5)	3 (18.2)	0.589
Previous stroke	3 (11.5)	1 (9.1)	0.827
Neoplasia	4 (15.4)	0 (0)	0.168
Cognitive impairment	12 (46.2)	4 (36.4)	0.583
Laboratory parameters at admission			
PaO2/FiO2 at entrance	336 (265–378)	329 (282–380)	0.757
White Blood Cells, x10^9/L	6.76 (5.04–10.09)	8.79 (5.87–12.45)	0.238
Lymphocytes, x10^9/L	1.30 (0.90–1-51)	1.38 (0.28–1.67)	0.868
C-reactive protein, mg/dL	8.16 (2.93–13.46)	4.18 (2.58–15.54)	0.455
Ferritin, ng/mL	191 (88.5–438)	195 (27–1032)	0.786
LDH, U/L	217 (135–440)	217 (162–254)	0.796
Albumin, g/L	31.3 (26–34.7)	24.4 (13.7–30.6)	0.126

n = numbers. IQR = Interquartile-range. *BMI* = Body Mass Index. *LDH* = lactate dehydrogenases. *GRF* glomerular filtration rate. Categorical variables were compared with Chi-square test; Continuous variables were compared with Mann-Whitney test.

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Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

References

[1] Lidoriki I, Frountzas M, Schizas D. Could nutritional and functional status serve as prognostic factors for COVID-19 in the elderly? Med Hypotheses 2020;144:109946.
[2] Lee JS, Choi HS, Ko YG, Yun DH. Performance of the geriatric nutritional risk index in predicting 28-day hospital mortality in older adult patients with sepsis. Clin Nutr 2013;32(5):843–8.
[3] Yuan Y, Wang N, Ou X. Caution should be exercised for the detection of SARS-CoV-2, especially in the elderly. J Med Virol 2020.

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