Letter to the Editor

Reply-letter to the editor: Low muscle mass in COVID-19 critically-ill patients: Prognostic significance and surrogate markers for assessment

Dear Editor

We are pleased to submit a response to the Letter to the Editor that you have received from Silva et al. We are grateful for their appreciation of our study "Low muscle mass in COVID-19 critically-ill patients: Prognostic significance and surrogate markers for assessment" published in Clinical Nutrition [1]. We believe their comments and suggestions might contribute to a better understanding of our study.

We thank Silva et al. for taking the time to comment on our original manuscript bringing interest on this highly relevant topic. First, Silva et al. highlights the heterogeneity of our sample, regarding the age group of individuals. Our study sample included all the admitted population during the study period, which might contribute to heterogeneity. Although it might be convenient to assess muscle mass according to age (in our cohort 64% of the patients without low muscle mass criteria were less than 50 years old, vs 48% of patients with low muscle mass, p = 0.77), there is no consensus for skeletal muscle mass index measured by computed tomography considering age as a variable in the critically ill patient [2]. Furthermore, considering BMI impact and the absence of guidelines for Mexican population, our group decided to use cut-off points that were previously generated in another population group, which considered gender and BMI [3], and not a defined cutoff point considering only gender. Moreover, due to our population's characteristics, it should also be noted that, in Mexico, individuals are usually studied as Hispanic population, and not as different ethnic groups. Additionally, even when height and weight estimation include half wingspan, it was performed according to predictive models generated in the Brazilian population. These models were previously validated by our study group [4]. Collected measures were not considered for fat or muscle mass estimation in predictive models.

Regarding the use of Kolmogorov Smirnov presenting only high reliability for sample analysis greater than 50 individuals, we respectfully differ since the reference mentioned by the authors concludes that "Shapiro—Wilk test is the most powerful test for all types of distribution and sample sizes whereas Kolmogorov—Smirnov test is the least powerful test" [5]. Thus, we strongly believe the findings in our study are consistent with our methodology and conclusions.

Thank you for your giving us the opportunity to respond.

Author's contribution

IAOP, NCRM, SRL & CMHC prepared the manuscript.

References

[1] Osuna-Padilla IA, Rodríguez-Moguel NC, Rodríguez-Llamazares S, Orsso CE, Prado CM, Ríos-Ayala MA, et al. Low muscle mass in COVID-19 critically-ill patients: prognostic significance and surrogate markers for assessment. Clin Nutr 2022. https://doi.org/10.1016/j.clnu.2022.02.019. S0261-5614(22) 00070-X.
[2] Meyer H-J, Wienke A, Surov A. CT-defined low skeletal muscle mass as a prognostic marker for short-term mortality in critical ill patients. A systematic review and meta analysis. Nutrition 2021:111417. https://doi.org/10.1016/j.nut.2021.111417.
[3] Caan BJ, Meyerhardt JA, Kroenke CH, Alexeeff S, Xiao J, Weltzien E, et al. Explaining the obesity paradox: the association between body composition and colorectal cancer survival (C-SCANS study). Cancer Epidemiol Biomarkers Prev 2017;26:1008—15. https://doi.org/10.1158/1055-9965.EPI-17-0200.
[4] Osuna-Padilla IA, Borja-Magno AI, Leal-Escobar G, Verdugo-Hernández S. Validation of predictive equations for weight and height using body circumferences In Mexican elderlys. Nutr Hosp 2015;32:2898—902. https://doi.org/10.3305/nh.2015.32.6.9760.
[5] Razali NM, Wah YB. Power comparisons of Shapiro-Wilk, Kolmogorov-Smirnov, Lilliefors and anderson-Darling tests. J Stat Model Anal 2011;2(1):21—33.

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