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NEPHROLOGY - LETTER TO THE EDITOR

The measurement of basal creatinine and the diagnosis of AKI with COVID-19

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Editor,

It is known that the coronavirus disease 2019, a viral illness affecting multiple organs including the kidneys, has led to high morbidity and mortality. Several reports indicate that the presence of acute kidney injury in COVID-19 patients contributes to the poor prognosis [1].

After reading the article by Kanbay M et al. "Acute renal failure in hospitalized patients with COVID-19" it was observed that they have had limitations for its study because this was a retrospective cohort study and the data were collected from medical records in 1 month approximately and the patients might have elevated baseline creatinine superior to hospitalization. Accordingly, this may have affected their incidence of AKI among COVID- 19 patients [2].

The exposure was measured precisely to minimize possible biases, but it was found that in the part of the general characteristics of the study population, they mention that around 41% of the patients are women and although the difference is not that great this can result in a selection bias because according to another article acute kidney injury is more common in men than women [3].

The authors stated in "Definitions of outcomes" that they defined AKI according to KDIGO 2012 criteria [4] but some patients might have had elevated baseline creatinine prior to hospitalization and more information could be included about regarding creatinine, how it could vary at the time of hospitalization and affect certain exclusion/inclusion criteria. Sometimes, some people have a reference of how much creatinine they have, which according to the literature could cause harm or have certain complications, but for these patients it does not cause harm. Similar to the case of certain patients with low or high basal blood pressure but who have a normal life. They showed that AKI is common in hospitalized patients with COVID-19 and is associated with a longer hospital stay, ICU admission rate and hospital mortality. Similarly, this hospital stay and admission to the ICU is related to the appearance of certain comorbidities and these may vary according to the data collected [2].

It would also be good if they explained how they obtained the creatinine data, if it was by some formula or direct measurement. Although there are exclusion criteria that mention a kidney transplantation or having estimated glomerular filtration rates (eGFRs) < 30 ml/min/1.73 m^2 represented advanced chronic kidney disease or known history of end stage kidney disease (ESKD) these could be fail, for example in an article in a nephrology journal they mention that the use of a basal creatinine calculated from the MDRD equation in the diagnosis of ARA overestimates its incidence and that this fact is common to those populations with an increased prevalence of mild CRF, its intensity depending on both this factor and the incidence of ARA [5].

It is advisable to make a better observation about any possible selection bias. Likewise, do a deeper study in relation to the real basal levels of creatinine in patients diagnosed with AKI and if this measurement was made by means of formulas or a direct measurement, also how this can vary in the time of hospitalization and affect the levels of inclusion. And exclusion from the study.

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