

Mortality in COVID-19 Associated AKI We didn't Know How good we had it

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Received: July 29, 2021; Accepted: August 12, 2021; Published: August 19, 2021

About the Study

We are currently in the second year of the fight against COVID-19 pandemic and a lot has been learned so far. At the beginning of the pandemic, we observed an extremely high mortality rate, especially in patients with COVID-19 associated with respiratory failure and AKI. Literature data showed mortality rates ranging from 88.1% to 90.3% [1,2]. Some considerations need to be made about this period. At that time, we faced the lack of knowledge about the disease, as well as the shortage of ICU beds and occasionally supplies and equipment. It is common sense that starting dialysis before a formal indication (uraemia, hyperkalaemia, acidosis, or hypervolemia) does not reduce the 90-day mortality [3]. However, in the first months of the pandemic, haemodialysis indications became late, because of delay in patients admissions to ICU, which has led to a high frequency of emergency dialysis due to severe hyperkalaemia, acidosis and hypervolemia with pulmonary congestion.

In relation to ventilator support, in the beginning of pandemic there was a consensus about early intubation and mechanical ventilation, avoiding the use of non-invasive ventilation. Several observational studies have already demonstrated an association between invasive mechanical ventilation, AKI and higher mortality [4]. The hypothesis of "lung-kidney cross-talk" in critically ill patients gives support to this association.

Some promising antiviral drugs emerged during this period, but only the remdesivir showed a modest benefit. Individuals at high risk of hyper inflammation who are diagnosed early during illness (≤ 10 days) and require supplemental oxygen, remdesivir was superior to placebo in shortening the time to recovery and reduces the risk of progression, however without showing a reduction in mortality or the need for dialysis [5].

During this period, we witnessed that management of the main COVID-19 complications have evolved. Regarding the evolution of the treatment and its impact on the complications of COVID-19, the large-scale use of dexamethasone, after the evidence of reduced mortality in June 2020, contributed decisively to improve outcomes. In addition to reducing mortality at 28 days compared to the control group, dexamethasone had positive impact on AKI, reducing the need for dialysis within 28 days compared to control group (OR, 0.61; 95% CI, 0.48 to 0.76) [6].

Nowadays, intensive care services use evidence-based protocols of invasive mechanical ventilation and the beginning of renal replacement therapy has not exceeded the allowed limit of its indications. Moreover, the rational use of anticoagulation and corticosteroids in patients who meet the criteria is already routine in ICUs. In addition, the worldwide vaccination has changed the

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Citation: Bezerra R, Teles F (2021) Mortality in COVID-19 Associated AKI We didn't Know How good we had it. J Clin Exp Nephrol Vol. 6 No.S3: 008.

profile of patients hospitalized due to COVID-19, decreasing its mean age and with a possible reduction in mortality.

Sepsis-associated AKI carried the worst prognosis than ever other AKI etiology. It's hard to say but I have no doubt that a nephrologist that went through the COVID-19 pandemic in early 2020 in a developing country miss the "good old days" of sepsis-associated AKI. Considering the above, we hope that new evidences confirm that the current scenario are better than the devastating we faced in 2020 and very soon the mortality in COVID-19 associated AKI will be similar to other AKI etiologies.

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