Category :**Renal: failure**

A145 - ***Acute kidney injury in critically ill patients with covid-19: a single-center cohort analysis***

C Branco [1] ; C Costa [1] ; L Carvalho [2] ; D Cabral [2] ; A Gaspar [2] ; C Candeias [2] ; S Fernandes [3] ; J Santos Silva [2]

[1]Centro Hospitalar Universitário Lisboa Norte, Division of Nephrology and Renal Transplantation, Department of Medicine, Lisboa, Portugal, [2]Centro Hospitalar Universitário Lisboa Norte, Intensive Care Department, Lisboa, Portugal, [3]Faculdade de Medicina da Universidade de Lisboa, Clínica Universitária Medicina Intensiva, Lisboa, Portugal

Introduction:

Acute kidney injury (AKI) has been reported as a frequent complication of critical COVID-19, and renal involvement has been associated with poor outcomes [1]. We aimed to evaluate the occurrence of AKI, the use of renal replacement therapy (RRT), patient and kidney outcomes, and the risk factors associated with AKI in critical COVID-19.

Methods:

Single-center, retrospective cohort analysis of patients with critical COVID-19 in a university hospital in Portugal. AKI was defined according to KDIGO serum creatinine (sCr) and urinary output (UO) criteria. Multivariable logistic regression analysis was used to explore the risk factors for developing AKI and to assess the association between AKI and ICU mortality.

Results:

Of 476 evaluated patients, 60% (n=286) had AKI, of which 93.7% fulfilled UO criteria. AKI could be established by sCr in 59.1% of patients, while 40.9% had exclusively UO criteria.

Age above 60 years (OR 2.9), obesity (OR 3.1), a higher SAPS II score (OR 1.03), use of mechanical ventilation at day 1 of ICU stay (OR 5.2) and previous chronic renal disease (OR 5.6) were associated with an increased risk for AKI.

Overall mortality in this cohort was 24.4% (32.9% in patients with AKI and 11.6% in patients without AKI). KDIGO stages 2 (OR 3.7) and 3 (OR 10.6) were associated with ICU mortality ($p<0.001$). Of note, patients diagnosed only by UO criteria did not have an increased ICU mortality.

RRT was used in 16% (n=47) of patients. Among survivors, only 2 patients persistently needed RRT at ICU discharge. Global kidney function recovery was 95.3% (n=183).

Conclusion:

In a single-center cohort analysis of 476 critically-ill COVID-19 patients, 60% had AKI. This was driven by the occurrence rate of AKI defined by UO criteria. KDIGO stages 2 and 3 were associated with ICU mortality. Most of the patients with AKI had recovered by the time of ICU discharge. Future studies should explore long term kidney outcomes.

References:

1. Gabarre et al. Intensive Care Med. 2020 Jul;46(7):1339-1348.