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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Results: Of the 322 admitted COVID-19 patients, 154 were included with 89 (58%) having poor outcomes. Hyponatremia was seen in 60 (38.9%) of the population while 48 (33.9%) had poor outcomes. Serum sodium and IL-6 have an inverse relationship is not statistically significant. Patients with hyponatremia were 4.46 times more likely to require high oxygen support, 4.16 times more likely to need hemoperfusion, and 60.71% times more likely to have ICU admission. Hyponatremia was shown to have a 94.12% likelihood need for tocolizumab, 3.87 times more likely to result in severe or critical COVID-19 and 3.78 times more likely to expire. Overall, hyponatremia was 5.17 times more likely to have poor clinical outcome in comparison to normonatremia.

Conclusions: Serum sodium cannot replace serum IL-6 as an inflammatory marker, but could be considered as a potential prognostic marker for COVID-19 when inflammatory markers are not available. COVID-19 patients with hyponatremia have a higher predisposition to increased disease severity. Including serum sodium in scoring systems could help signal to the health care providers that a more aggressive treatment approach would be indicated, thus aiding physicians in managing patients more effectively.

No conflict of interest

WCN23-0624

ACUTE KIDNEY INJURY AND COVID-19

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Introduction: COVID-19 is caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2). This emerging disease has become a public health emergency worldwide.

Acute Kidney Injury (AKI) secondary to COVID-19 has been described in different studies, but information characterising patients with subsequent AKI is limited. The cause of kidney involvement in COVID-19 is thought to be multifactorial. Cardiovascular comorbidity and predisposing factors (e.g. sepsis and nephrotoxins) are considered as important contributors. The tubular damage has been linked to the cytopathic effects of kidney-resident cells and cytokine storm syndrome. To gain better understanding of the effect of COVID-19 on renal function, large clinical and register based studies have been requested.

The objective of this study was to quantify the risk of acute kidney injury during and after covid-19.

Methods: This was a Swedish prospective cohort study where Generalised Estimating Equation methods (GEE) was used to map the kinetics of kidney injury markers such as serum-creatinine (s-creatinine), cystatin and eGFR for the hospitalised patients in the cohort, comparing patients with moderate and severe COVID-19 during and after the acute infection. Furthermore, we will investigate if patients with kidney dysfunction during COVID-19 have more severe disease outcome compared with the whole cohort, adjusting for age, sex, and comorbidities. We will also compare start values of kidney injury markers with the latest values and count the percentage worsening among all disease severity groups.

Cohort: Approximately 550 COVID-19 patients were recruited to the study following informed and signed consent at 2 Swedish University Hospitals. A case report form was filled in at pre-specified time points, and samples collected consecutively. A database was then created containing dates and information regarding symptoms, laboratory samples, complications, and disease severity (e.g. need of oxygen, intensive care, mechanical ventilation, death).

Results: There was a significant increase in s-creatinine among hospitalised and intensive care unit patients (n=126) during the acute phase of COVID-19 (day 0-6 post disease onset) when compared to the following samples after 90 days from disease onset. There was also a decrease in s-creatinine in day 11-21 and 31-70 among hospitalised and intensive care unit COVID-19 patients when compared to the same follow up samples. This analysis was adjusted for age and sex. See figure 1.

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CLINICAL PROFILE AND OUTCOMES OF COVID-19 IN RENAL TRANSPLANT RECIPIENTS – A SINGLE CENTRE EXPERIENCE

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Introduction: The COVID-19 infection amongst the renal transplant recipients (RTR) has a varied presentation and severity of illness. The overall mortality amongst RTR was found to be 11.6%–27% compared to the mortality rate of 2–3% amongst the COVID-19 infected general population. The incidence of acute kidney injury(AKI) in RTR was also found to be higher compared to general population with Covid 19 (27.5% versus 13.3%). We assessed the clinical outcomes of COVID-19 infection among RTR and its impact on the graft function along with predictors of poor clinical outcomes.

Methods: Ours is a single centre observational cohort study of 83 RTR with Covid 19 infection with a follow up period of 6 months. The data pertaining to demographics, renal transplantation, maintenance immunosuppression, baseline allograft function prior to Covid 19 infection and comorbidities was recorded in both hospitalised and outpatient RTR. Lab investigations including renal function tests and inflammatory markers were noted. Renal allograft function was assessed by estimated glomerular filtration rate(eGFR) using CKD-EPI equation prior to admission, hospital stay and 6 months follow up. The need for oxygenation, invasive ventilation; presence of hypotension, acute kidney injury(AKI),acute respiratory distress syndrom(ARDS) and need for renal replacement therapy(RRT) was noted. Modification of immunosuppressant medications with respect to dose reductions and withdrawal was recorded. The primary endpoint was mortality and presence of acute kidney injury during Covid 19 infection.

Results: The mean age was 47.67±13.7 years and 75.91 % were males. Around 81.9%(68/83) RTR were hospitalised & 18.9%(15/83)were managed as outpatients. Out of 83 patients,43 (51.8%), 2(27.7%),17(20.5%) had mild, moderate and severe COVID 19 illness respectively. The mortality rate amongst COVID 19 infected RTR was
19.3% (16/83). Out of 83 RTR, 17 required inotropic support owing to hypotension. The baseline eGFR (ml/min) prior to Covid 19 infection was 66.3 ± 30.66. The eGFR (ml/min) during Covid 19 was 44.27 ± 31.53. Acute kidney injury (AKI) was seen in 72.3% (60/83) of RTR. 19.28% (16/83) required RRT. The percentage change in eGFR from baseline during COVID-19 was found to be statistically significant (p=0.003) and correlated with mortality (p=0.003). At 6 months of follow up, 55/83 RTR had stable allograft function. In contrast to the survivors, the non survivors had a higher mean age (67±13 vs 57±12 years), number of years of hypertension (15±9 vs 8.5±7 years), body mass index (27.05±4.7 vs 23.11±7.8), percentage change in eGFR from baseline (114.1±81.7% vs 58.8±61.4%), serum interleukin levels (120.7 vs 10 pg/ml) and D dimer (145 vs 21.3 mcg/ml) levels (p<0.05). Other risk factors which correlated significantly with outcome of mortality and reduced renal recovery include presence of hypoxia at presentation and ARDS (87.5% vs 28.1%), presence of hypotension requiring inotropes (81.3% vs 6%), and AKI and the need for RRT (56.7% vs 10.4%).

Conclusions: The mortality rate amongst the RTR with COVID 19 infection was found to be 19.3%. AKI was found in 72% of patients during the illness and about 9.6% developed graft loss by 6 months. RTR needs a close supervision and follow up as they are prone to acute kidney injury and may develop allograft failure. No conflict of interest

ADMISSION HEMOGLOBIN AS A PROGNOSTIC FACTOR FOR MAJOR ADVERSE KIDNEY EVENTS IN HOSPITALIZED PATIENTS WITH COVID-19 AND ACUTE KIDNEY INJURY

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Introduction: Although COVID-19 and anemia are associated with higher risk for Acute Kidney Injury (AKI), to the best of our knowledge no studies have analyzed the association of admission hemoglobin with Major Adverse Kidney Events (MAKE) in patients with COVID-19 and AKI.

Methods: Retrospective cohort study of 412 hospitalized patients with severe COVID-19. MAKE was defined as a composite of 28-day mortality, progression to AKI stage 3, and renal replacement therapy. A COX regression analysis was used to determine the independent association of hemoglobin level with risk of MAKE.

Results: The mean age of the 412 patients was 55±15 years. 35.9% were male, had a mean Body Mass Index (BMI) of 28.2±5.5 kg/m2, and median in-hospital stay was 10 (6-17) days. Overall, patients had a mean hemoglobin level of 12.8±2.8 g/dL and 62.1%, 23.8%, 8.7%, and 5.3% presented a 24-hour hemoglobin >13 g/dL, 10-13 g/dL, 9.9-8 g/dL, and <8 g/dL, respectively. Likewise, the 28-day mortality was 20.4%, 22.3% progressed to AKI stage 3 and 9.5% required RRT. The univariate analysis showed that a 24-hour hemoglobin >13 g/dL had a lower risk for 28-day mortality (HR=0.634 [0.503-0.800]), AKI at any stage (0.457 [0.304-0.687]), progression to AKI stage 3 and 9.5% required RRT. The univariate analysis showed that a 24-hour hemoglobin >13 g/dL had a lower risk for 28-day mortality (HR=0.634 [0.503-0.800]).

Conclusion: A hemoglobin >13 g/dL level was independently associated with lower risk to present MAKE in hospitalized patients with severe COVID-19.

Conclusions: A hemoglobin >13 g/dL level was independently associated with lower risk to present MAKE in hospitalized patients with severe COVID-19.

No conflict of interest