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.

and outcomes of kidney disease in COVID patients. Although diffuse alveolar damage and acute respiratory failure are the main features of COVID-19, the involvement of other organs need to be explored. Kidney disease could be a factor which could have a negative outcome in patients with COVID 19.

Renal transplant recipients are a special population who can be affected by the CoViD pandemic due to the immunosuppressant drugs they are on. They are also at risk because of the other co-morbidities they have. Mortality in this population is found to be 20-30% according to a few studies. So this study is aimed at assessing the clinical profile of this population in a tertiary care centre in South Indian.

Methods: A Prospective study and short term follow-up of all CoViD-19 afflicted post renal transplant patients admitted in a tertiary care hospital between May 2020 to July 2021 was done. Clinical characteristics, laboratory data and outcome data were obtained. Factors affecting death and graft dysfunction were studied. Data was presented as mean with standard deviation. Multivariate regression analysis was performed to identify independent risk factors that predicted graft dysfunction and death.

Results: A total of 51 cases of CoViD-19 positive renal transplant patients got admitted. The mean age of this cohort was 40 years. Males represented a higher proportion (84.3%) than females. There was 38 LRRTR and 13 DDRTR. 10 patients had history of treatment for graft rejection recently. Most common co morbidity was Diabetes (17.6%); presenting symptoms at the time of COVID-19 included fever (96.1%), cough (90.2%), and breathlessness (72.5%). Clinical severity ranged from asymptomatic (3.9%), mild (23%), and moderate (3.9%) to severe (68.6%). Strategies to modify immunosuppressant's included discontinuation of anti metabolites without changes in calcineurin inhibitors and steroids (45%). Overall patient mortality was 33.3% (17 of 51) and 100% (17 of 17) in patients requiring invasive ventilator support. Dyspnea and altered mental status at presentation, severe CoViD and need for RRT were risk factor for death. ISD regimen change, Remdesvir and oxygen therapy had significant effect on survival.

Graft dysfunction was seen in 96.1% of patients. No significant risk factors were identified for graft dysfunction. Severity of CoViD-19 was found to be an independent risk factor for mortality as per multivariate analysis. Of the 34 patients who survived, 15 had persistent graft dysfunction after 4 weeks of follow-up.

Conclusions: Altered metal status at presentation, severe CoViD pneumonia and need for RRT were risk factors for mortality. ISD regimen change, Remdesvir and oxygen therapy had significant effect on survival. Severity of CoViD-19 pneumonia was found to be an independent risk factor for mortality as per multivariate analysis. Graft dysfunction was seen in 96.1% of patients.Of the 34 patients who survived, after 4 weeks of follow-up, 15 had a higher SCr than their baseline value.

No conflict of interest

POS-013

HIGH DEPENDENCY RENAL UNIT (HDRU) FOR MANAGEMENT OF COVID-19 IN PATIENTS WITH SEVERE ACUTE OR CHRONIC KIDNEY DISEASE: AN EXPERIENCE

Thakare, S*[1], Modi, T[1], Gandhi, C[1], Bose, S[1], Deb, S[1], Katyal, A[1], Saxena, N[1], Patil, A[1], Patil, S[1], Pajai, A[1], Bajpai, D[1], Jadhav, P[1]

[1]Seth GSMC and KEM Hospital- Mumbai, Nephrology, Mumbai, India

Introduction: Patients with kidney disease are prone to developing COVID-19 infection and are more likely to manifest severe disease due to concomitant risk factors like advanced age, hypertension, diabetes, cardiovascular disease. COVID-19 in patients with End Stage Renal Disease (ESRD) is associated with high mortality. Similarly, several reports have highlighted severity, non resolution and high mortality of acute kidney injury (AKI) due to COVID-19. Mumbai was one of the epicentres of pandemic in India. Handling surges of hospitalisations posed unique challenges in management. High case load, limited resources and manpower, need for triage of dialysis services and intensive care, logistics of delivering multi-pronged care to patients with kidney disease necessitated formation of a dedicated high dependency renal unit (HDRU), where concerted efforts could be employed. In this study, we evaluate the effect of a high dependency set-up with nephrologists at the helm, for management of hospitalised patients with kidney disease needing dialysis.

Methods: This was an observational cohort study, conducted at a tertiary care teaching hospital in western India. Consecutive patients needing dialysis for COVID-19 associated AKI (AKI-D) and patients with ESRD hospitalised for COVID-19 were included. HDRU was a 45-bedded ward adjacent to the 13- bedded COVID-19 dialysis unit, staffed with nephrology attendings and fellows, fellows from other specialties on rotation duties, nurses, patient care assistants and dialysis technicians. Components of management included care bundles focusing on key nephrology, dialysis and COVID-19 related issues, training of posted non-nephrology fellows and nurses for implementing care bundles, checklist-based clinical monitoring, integration of multi-specialty care, logistics team for allocation of supplies, manpower, daily log-keeping and communication with patient's kin. Primary outcome of the study was in hospital mortality compared between pre-HDRU and HDRU cohorts. Secondary outcomes were- dialysis dependence in AKI-D, and predictors of death in both cohorts.

Results: 238 of total 4254 (5.59%) COVID-19 admissions had severe renal impairment (116 AKI-D and 122 ESRD). 145 (62%) had severe COVID-19 disease. 76 (31.9%) patients died [AKI-D- 51 (43.9%), ESRD-25 (21.2%)]. HDRU was operational from 28th May to 31st August 2020. Kaplan-Meier survival analysis showed significant improvement in survival after implementation of HDRU [19 (36.5%) deaths in pre-HDRU versus 35 (21.9%) in HDRU, p=<0.01]. 20.6% of the patients had major medical issues apart from COVID-19 at admission. 32.9% the deaths were not directly related to COVID-19 ARDS.

In stepwise forward conditional regression analysis for AKI-D cohort, presence of shock at presentation or developing during stay and altered mental status at presentation were predictors of mortality, while shock at presentation or developing during stay, altered mental status, severe COVID-19 illness were predictors for ESRD cohort. 44 (67.7%) AKI-D survivors were dialysis dependent at discharge, pre-existing hypertension and CKD were associated with dialysis dependence.

Conclusions: High dependency unit managed by nephrologists is a potentially effective approach in improving outcomes of COVID-19 patients with severe renal impairment. Nuanced attention, integration of care and effective resource utilisation reflect in the benefit.

No conflict of interest

POS-014

NEPHROLOGY REFERRAL PATTERN AND SHORT-TERM OUTCOMES IN COVID 19 POSITIVE PATIENTS

Prasannan, G*[1], Fernando, E[2]

[1]Gov. Stanley Medical College, Nephrology, Chennai, India, [2]Gov.Stanley Medical College, Nephrology, Chennai, India

Introduction: Coronavirus Disease is considered a pandemic by the WHO. Not much studies have described the pattern and outcomes of kidney disease in COVID patients. Although diffuse alveolar damage and acute respiratory failure are the main features of COVID-19, the involvement of other organs need to be explored. Kidney disease could be a factor which could have negative outcomes in these patients. Thus, this study is aimed at assessing the patterns of kidney disease and outcomes in COVID patients.

Methods: All COVID 19 positive patients who got nephrology referral during the first covid wave (March to November 2020) and second covid wave (April to June 2021) were included in the study. Laboratory confirmation of COVID19 infection was done by RT-PCR of throat swab in patients who present with symptoms suggestive of COVID 19 or those detected during routine screening. Blood examinations include complete blood count, and renal function tests. Laboratory parameters were measured at admission, and serially and at discharge or before death. The data of all patients including Acute kidney injury, Chronic Kidney disease and post renal transplant patients were collected.

Results: Among 885 patients, 38.3% (n=339) were previously diagnosed cases of CKD of which 41.8% (n=142) were CKD 5D and 50 were post renal transplant patients (5.5%). Acute worsening of renal function was noted in 76.2 %, with 9.3% warranting Renal Replacement Therapy. COVID severity graded as Mild, Moderate and Severe were 41.6%, 28.2% and 30.2% respectively. We noticed a significant difference(p=0.002) in death rates between COVID wave 1 (16.1%) and wave 2 (25.4%) in our study population. Overall mortality in the hospitalised COVID patients were only 2.39% and 6.12% in both waves. The mortality rate in our study population was 18.5%, while that among transplant population was 30.0% and 31.3% among ESRD patients. Hypotension at admission(p=0.00) and requirement of mechanical ventilation (p=0.00) were associated with higher mortality. Baseline CKD was detected for the first time during admission in 18.1%

of patients(n=159). Among AKI patients, 46.2% cases had acute kidney disease at discharge.
Conclusions: Mortality in the patients with Kidney disease (especially ESRD and post transplant) was higher among the COVID patients. Second Covid wave had higher mortality compared to the first wave. The longterm outcomes of COVID AKI is unknown as a significant number of cases had acute kidney disease at discharge.

No conflict of interest

POS-015

ACUTE KIDNEY INJURY IN COVID 19 – A STUDY OF THE CHARACTERISTICS AND OUTCOMES OF HOSPITALISED PATIENTS FROM A TERTIARY CARE HOSPITAL IN SOUTH INDIA

Prasannan, G*[1], Fernando, E[2]

[1]Gov. Stanley Medical College, Nephrology, Chennai, India, [2]Gov.Stanley Medical College, Nephrology, Chennai, India

Introduction: Since Covid 19 disease emerged, it has infected more than 216 million and caused deaths of over 4.5 millions worldwide. Acute Kidney Injury is common in Covid 19 disease. It is thought that severity of AKI is a factor which leads to severe adverse outcomes. We analysed the clinical and laboratory profile of all patients with COVID 19 and their outcomes.
Methods: All COVID-19 patients who had acute kidney injury were included. Laboratory confirmation was done by RT-PCR of throat swab. Blood examinations were measured at admission, and serially and at discharge. The data of all patients including Acute kidney injury, Acute worsening on pre-existing CKD and renal transplants were also included. ESRD requiring maintenance dialysis were excluded from the study.
Results: The incidence of AKI in hospitalised COVID patients were 1.9%.We analysed 674 patients with AKI of whom 520 were from 1st wave and 154 were from second wave. Mean age of the study population was 60.21 ± 12.46. The mean peak serum creatinine was 3.77±2.95. Males (66.9%) were predominantly affected. Major comorbidities were Diabetes Mellitus(53.1%), hypertension (46.4%), Coronary artery disease(11.3%).Known CKD which developed acute worsening was found in 22.7% whereas another 21.4% were found to have an underlying CKD after admission. A pre-renal component for AKI was present in 83.7% of patients while Intrinsic causes were present in 18.8%. Sepsis contributing to Intrinsic renal failure was observed in 10.2%; other factors like drugs (3.0%),Cardiorenal Syndrome(1.5%) and Ischemic ATI(3.9%) were also present. Only 2.9% had significant edema while 39.8% patients were clinically volume depleted. In majority of patients, renal failure was asymptomatic and incidentally detected on routine laboratory screening(84.9%), while oliguria(8%) and pulmonary edema (2.2%) were infrequent. Patients having KDIGO Stage 1,2 and 3 AKI were 47.8%, 27.4% and 24.8% respectively. Renal replacement therapy was warranted in 9.3% of patients. Severity of Covid was Mild, Moderate and Severe in 43.8%,26.1% and 30.1% of patients. Need for Mechanical ventilation was observed in 27.9% of AKI, while 43.1% of Stage 3 AKI required mechanical ventilation. The mortality in study population was 15.7% while the mortality in Stage1,Stage 2 and Stage 3 AKI were 7.5%, 9.7% and 38.3%(p=0.00). Resolution of AKI was observed in 51.0% while 46.3% had a non-resolved acute component at discharge. There was statistically significant difference(0.00) in peak serum creatinine in patients who died(5.50±4.06) and survived(3.45±2.58).Higher age (p=0.06) and diabetes (p=0.31) were not found to be associated with death in our population.
Conclusions: We found significant association between severity of AKI and mortality in Covid.Majority of the hospitalised patients were volume depleted.Old age and diabetes were not associated with mortality in our study.The longterm outcomes of unresolved AKI at discharge needs to be further followedup.

No conflict of interest

POS-016

HIGH MORTALITY AND RESIDUAL KIDNEY DAMAGE WITH COVID-19 ASSOCIATED ACUTE KIDNEY INJURY IN NORTHERN INDIA

Sharma, H*[1], Prasad, N[2], Behera, MR[2], Kaul, A[2], Bahaduria, DS[2], Yaccha, M[2], Kushwaha, R[2]

[1]DR, NEPHROLOGY, LUCKNOW, India, [2]SGPGIMS, Nephrology, Lucknow, India

Introduction: Acute kidney injury (AKI) is associated with morbidity and mortality in COVID19 patients. The incidence of AKI and its outcomes varied from different parts of the world. We aimed to analyze the AKI incidence, predictors of AKI, and mortality with their outcomes on follow-up in hospitalized patients with COVID-19.
Methods: The study was designed as a retrospective, observational study of electronically captured data on hospital information system of laboratory-confirmed COVID patients, with and without AKI between March 2020 to June 2021. The predictor of AKI and mortality and residual damage in recovered AKI patients were analysed.
Results: Of the 3395 patients, 3010 COVID 19 patients were eligible. AKI occurred in 951 (31.5%); with stages 1, 2, and 3 in 605 (63.7%), 138 (14.5%), and 208 (21.8 %) patients, respectively. AKI severity increased with COVID-19 severity. Of 951 AKI patients, 403 died, and 548 were discharged. AKI group had a higher mortality (42.3%) than non-AKI (6.6%). At discharge, 370 (67.5%) had complete recovery while 178 (32.5%) had residual damage. Of the 155 patients (23 could not be contacted) on 3 months follow-up,108 (69.6%) patients showed complete recovery, 47 (30.3%) patients had residual damage, 14 (9%) had elevated serum creatinine above the documented baseline and 33 (21.2%) patients had residual damage in the form of proteinuria (n=24) and microscopic hematuria (n=9) representing residual damage.
Conclusions: AKI is common among patients hospitalized with COVID-19 and is associated with high mortality. Residual kidney damage post-COVID 19 in recovered AKI patients may increase CKD burden.

No conflict of interest

POS-017

COVID ASSOCIATED GLOMERULONEPHRITIS- AN ALARM FOR ATYPICAL INFECTION RELATED GLOMERULONEPHRITIS

Roy Chaudhary, A*[1], Sengupta, M[2], Basu, K[2], Ghosh, S[3], Das, R[2], Karmakar, S[2], Sharma, A[4]

[1]Teaching cadre in medical education system, Nephrology, Kolkata, India; [2]IPGME&R, Pathology, Kolkata, India; [3]IPGME&R, Nephrology, Kolkata, India, [4]Lal Path LAB, Nephropathology, New Delhi, India

Introduction: Severe acute respiratory syndrome Corona virus 2 (SARS-CoV-2) is an infection with multiorgan involvement due to its diverse pathogenesis. Both acute kidney injury and glomerular lesions were described in covid infection. As happens with infection related GN, in 20 to 25% cases the infection footprints are lost, we had a case series of similar experience with respect to covid infection, immediately following the first peak of Covid infection in India, i.e. September to October 2020.
Methods: A prospective studywas done in the Department of Nephrology in and Nephropathology division of a tertiary care centre in Eastern India. Renal biopsy was done in selected patients 1) presenting with proteinuria and renal dysfunction 2) with history of constitutional or respiratory symptoms suggestive of covid 19 within last 4 to 6 weeks, SARS COV2 RT-PCR was negative at the time of presentation with high COVID IgG anti-spike antibody positive indicating past infection, vaccination was not available in India 3) without evidence of any other systemic infection or autoimmune diseases. Tissue was processed for light, immunofluorescence, and electron microscopy. We followed them up for at least 6 months.
Results: Eight cases, seven native (6 male and 1 female), and one graft kidney, (age range 12 to 53 yrs)had undergone renal biopsy. All presented with nephrotic range proteinuria with active sediments in urine, two patients with dialysis requiring AKI. The mean 24 hours urinary protein at presentation was 5.82 gm (3.6 to 16.5 gm.) All the cases had renal insufficiency, and the mean serum creatinine was 3.39 mg/dl (1.6 to 5.8 mg/dl). The mean C3 value was 96.7 gm/dl (39.4 to 134 gm/dl). Serum cryoglobulins titres and ANCA, anti-GBM, ANA and anti ds-DNA were non-contributory. The post transplant patient, was admitted with sharp rise of creatinine from base line of 1.5 mg to 4.3mg/dl. The mean C3 value was 96.7 gm/dl (range39.4 to 134 gm/dl). Serum cryoglobulins titres were non-contributory. All serological markers - ANCA, anti-GBM, ANA and anti ds-DNA werenegative in all patients. The most common histological pattern, seen in 4cases (50%) including one post-transplant biopsy, was predominantly diffuse and proliferative glomerulonephritis along with variable numbers of crescents with