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POS-027

COMPARISON OF CLINICAL OUTCOMES OF FIRST, SECOND, AND THIRD WAVES OF COVID19 AMONG CKD PATIENTS REQUIRING RRT IN A TERTIARY CARE HOSPITAL IN CENTRAL INDIA

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Introduction: Chronic kidney disease patients especially those on renal replacement therapy have emerged as most vulnerable patient population both in terms of incidence and severity of COVID-19 illness. Many countries including India witnessed three or more peaks in COVID-19 cases during 2020-21 pandemic. In India these waves differed from the rest of the world in terms of delay in onset and profound intensity. There is scarcity of comparative assessment of clinical outcome of CKD patients receiving Dialysis affected with COVID-19 between these peaks in India.

Methods: We retrospectively assessed medical records from COVID-19 dedicated tertiary care institute, of hospitalized adults with a diagnosis of CKD who underwent renal replacement therapy during COVID-19 illness. Institute ethic committee approved the study with ref no. AIIMSRPR/IEC/2020/643; Date of Approval: 28th Sept 2020. First, second and third wave were marked as March 2020 to November 2020, February 2021 to May 2021, and December 2021 to March 2022, respectively, based on country wide data reporting of COVID-19 cases.

Results: 259 eligible patients with M:F ratio of 3.2:1 were enrolled between May 2020 and February 2022. 155, 80, and 24 patients constituted first, second, and third wave cohort respectively. Third wave COVID cases were characterized by younger age, lesser symptomatology at presentation, and less radiological opacities as compared to earlier cases. Mortality rates observed in first, second and third wave were 45%, 33 % and 12.5 %. Significantly reduced mortality rates were thus observed as compared to earlier first and second waves (p=0.01) (**Table 1**). Overall, second wave seemed to be more disastrous in terms of clinical presentation as well as severity of illness (**Table 1**), which resulted in increased steroid and antiviral (remdesivir) prescription. However, no significant difference in mortality was observed between first and second wave (p=0.08). In univariate analysis Longer hospital stay, at admission APACHE score, shock, ICU transfer, ventilator use, and neutrophil-lymphocyte ratio greater than 7 portrayed higher mortality. **Table 2** shows result of Cox-proportional Hazard model in which only at admission APACHE score and ventilator use were found associated with adverse clinical outcome. Kaplan Meier analysis revealed worst clinical outcome among second wave period (p=0.016) **(Figure 1)**.

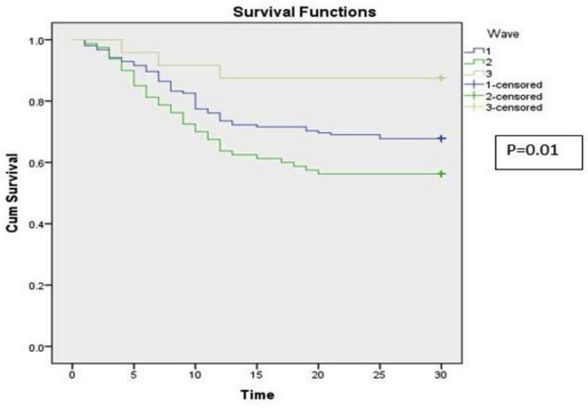
Table 1: Clinico-epidemiological characteristics of patients in different waves of COVID-19 Pandemic

Parameters	First wave (n=155)	Second wave (n=80)	Third wave (n=24)	P Value
Mean Age	52±14	51±14	39±18	<0.05
M: F Ratio	3.3:1	3.2:1	2.4:1	NS
Symptomatic Presentation	73%	84%	33%	<0.05
Radiographic lung opacities	45%	57%	12.5%	<0.05
Fever	53%	50%	-	<0.05
Neuropsychiatric symptoms	27%	21%	-	<0.05
Bleeding Diathesis	6.5%	4%	-	NS
APACHE score at admission	20±4.8	20±4.6	18±3.6	NS
Charlson Comorbidity index	4.4±2	3.9±1.7	3±1.6	<0.05
No supplementary Oxygen required throughout hospitalisation	39%	27.5%	83%	<0.05
Mechanical Ventilation	13.5%	12.5%	12.5%	NS
Intensive Unit care	35%	30%	17%	NS
Hypotension	16%	10%	-	NS
Duration of Hospitalisation (Days)				NS
Neutrophil Lymphocyte Ratio				NS
Corticosteroid Prescription	51.6%	69%	12.5%	<0.05
High dose steroid Prescription	51%	65.5%	100%	NS
Antiviral Medication	37.4%	67.5%	4%	<0.05

Table 2. Cox Proportional Hazard Model results for 30 day In-Hospital mortality

Parameters	HR	95% CI	p Value
NLR > 7	1.443	(0.70-2.93)	NS
APACHE Score > 25	1.854	(1.08-3.42)	<0.05
CCI > 5	1.153	(0.64-2.06)	NS
Age > 60 years	1.164	(0.66-2.05)	NS
Hypotension	1.586	(0.85-2.93)	NS
ICU transfer	1.648	(0.88-3.06)	NS
Ventilator use (Invasive & non-Invasive)	2.132	(1.14-3.98)	<0.05
Low dose steroid use	0.735	(0.42-1.27)	NS
No antiviral therapy	1.269	(0.70-2.27)	NS

Fig.1 Kaplan Meier Survival Analysis of three waves of COVID-19 cases among Dialysis-dependent CKD patients



Conclusions: CKD possesses greater adverse clinical outcome in patients affected with COVID-19. Delta strain of COVID-19 which is largely considered responsible for second outburst of cases in India is perhaps overplayed other strains in terms of adverse outcomes especially in CKD patients on renal replacement therapy. Vaccine induced immunological barrier seemed to be responsible for favourable clinical outcome among high-risk CKD patients during third wave.

No conflict of interest

POS-028

RENAL INVOLVEMENT AND OUTCOMES IN PATIENTS WITH COVID DURING THIRD WAVE IN INDIA

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Introduction: SARS-CoV-2, a respiratory virus, can involve the kidneys and cause acute kidney injury (AKI) by both direct and indirect mechanisms. Patients with renal dysfunction form a special group with special needs. Chronic kidney disease (CKD) is a state of impaired innate and adaptive immunity, co-existing with chronic inflammation; their clinical