

Renal involvement and outcomes in patients with COVID during third wave in India

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The study

Background

COVID pandemic was associated with renal involvement and mortality. Vaccination claimed reduction in severity of disease and death rate. India had vaccinated 43.7% with 2 doses by 31.12.2021. 3rd wave was expected to have less severe disease.

Inclusion / Exclusion criteria

All consecutive COVID positive patients seen by a panel of Nephrologist during 3rd wave of COVID pandemic (in India) were included

Patients aged < 18 years were excluded

Materials and Methods

Data was collected from 23 centers spread across India by an online questionnaire. This was extracted to an excel sheet and analyzed

Baseline characteristics

Study Population

Country – India
Time – during 3rd wave of pandemic
Number – 159
Age - 59.54 ± 14.98 years
Gender – Males 67.92%

Co-morbidities

Diabetes Mellitus - 93 (58.49%)
Hypertension - 142 (89.31%)
Ischemic Heart Disease - 30 (18.87%)
COPD - 8 (5.03%)

On immunosuppressive medications?

Yes - 27 (16.98%)
Steroid* 26 (16.35%)
Tac* 17 (10.69%)
MMF* 17 (10.69%)
Monoclonal Ab* 2 (1.26%)
* Post Tx were on >1 Imsp agents

Previous COVID infection

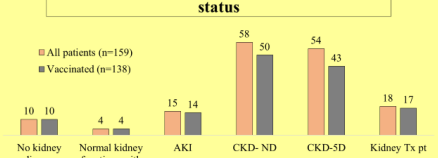
Yes – 20 / 159 (12.58%) No – 135 / 159 (84.91%)
Don't know – 4 / 159 (2.52%)

Vaccinated against COVID - 138 / 159 (86.79%)
[ChAdOx1 nCoV-19 Vaccine (Covishield) – 126 / 138 (91.3%); Whole-virion inactivated Vaccine (Covaxin) – 12 / 138 (8.7%)]

Doses of Vaccine

1 dose – 11 / 138 (7.97%); 2 doses – 121 / 138 (87.68%);
Booster dose – 6 / 138 (4.35%)

Pre-existing kidney disease and their vaccination status

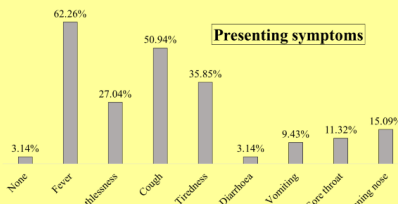


Course, management and complications

Admission status

ICU 30 (18.87%) HDU 7 (4.40%)
Ward 57 (35.85%) OP 65 (40.88%)

Presenting symptoms

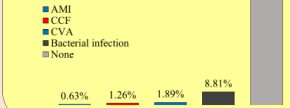


Highest Oxygen requirement

No Supplemental Oxygen - 110 (69.18%)
Nasal O2 - 26 (16.35%)
Ventimask O2 - 4 (2.52%)
BIPAP - 9 (5.66%)
HFNO - 1 (0.63%)
Ventilated - 9 (5.66%)

Among 94 admitted - 45 (47.87%) did not need O2 supplementation
Among 37 admitted to ICU / HDU 9 (24.3%) needed ventilatory support

Non-renal complications



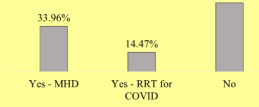
Steroid use

Defined as need for addition of steroids or escalation of steroids for COVID; which excludes those who were on steroids for other reasons and did not need dose escalation.

Steroids used in - 58 / 159 (36.48%)
Steroid used for - 6.11 days

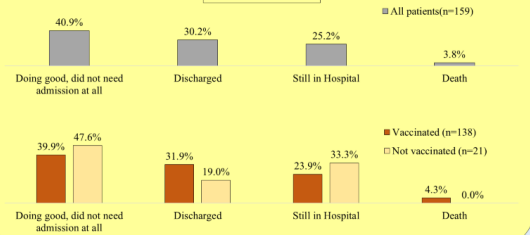
Remdesivir was used in 34.59%
Antibody cocktail was used in 1.89%

Needed RRT

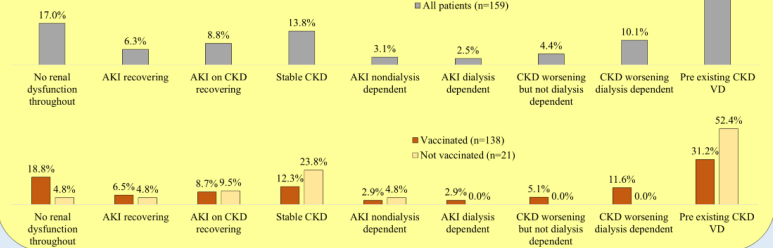


Outcomes

Patient outcome



Renal outcomes



	No kidney disease (n=10)	Normal kidney functions with proteinuria (n=4)	AKI (n=15)	CKD (n=58)	HD patient (n=54)	Kidney Tx recipients (n=18)
Age	54.9	44.5	67.1	63.6	60.8	42.3
Male	4	1	14	36	39	14
COVID vaccination	10	4	14	50	43	17
Past COVID	4	0	0	2	12	2
OP / IP	5 / 5	4 / 0	0 / 15	11 / 47	32 / 22	13 / 5
ICU admission	0	0	9	15	5	1
Ventilated	0	0	3	5	0	1
HD	0	0	5	16	22	0
Did not need dialysis	5	0	9	31	NA	5
Death	0	0	1	3	1	1

Death (N=6)	
Age	68
Male	4
COVID vaccination	6
Past COVID	0
ICU admission	6
Ventilated	2
At admission renal status	
AKI	1
CKD	3
HD patient	1
Kidney Tx recipient	1
During admission	
Needed dialysis	4
Did not need dialysis	2

Summary

	3 rd wave COVID	Cross-sectional study	Excluded <18 yr
N=159 M – 68%	Past COVID – 12.6%	Age – 59.54 yr	Vaccinated – 86.79%
Co-morbidities – DM – 58.5%; Htn – 89.3%		CKD-ND + CKD-SD- 70.4%; Tx – 11.3%	
Admitted – 59.1%	Ventilated – 5.9%	Needed RRT for COVID 14.5%	
Death – 3.8% All who died had been vaccinated with 2 doses, needed ICU admission, 2 needed ventilatory support and 4 needed dialysis			

Discussion

Vaccination was preferentially given to elderly with co-morbidities, by Government mandate. Those who were not vaccinated were hence younger in age, with lesser co-morbidities.

Conclusion

40.88% of study population did not need admission
87.68% of the study population were vaccinated with 2 doses of vaccine
Based on O2 requirement, severe COVID was seen in 19 / 159 (11.95%)
Vaccine did not prevent severe COVID

Limitations

Small cohort / No follow up

Acknowledgement

We acknowledge the help provided by Bloom Value Corporation in collecting the data