Poor Outcome after Hospital Discharge in Patients with ESKD and COVID-19

Sir,

Patients with end-stage kidney disease (ESKD) on maintenance hemodialysis are more vulnerable to coronavirus disease 2019 (COVID-19) infection. At the same time, they are also at higher risk of disease-related complications.[1] In-hospital mortality rates of around 27% to 32% have been reported in patients with ESKD and COVID-19.[2,3] Although a number of complications, namely, fatigue, muscle weakness, anxiety, pulmonary fibrosis, and sleep disturbances have been recorded on follow-up post discharge leading to significant morbidity,[4] what happens to ESKD patients on hemodialysis with COVID-19 post discharge from hospital has not been addressed. Herein, we report the outcome at 3 months after discharge in patients with ESKD and COVID-19 who were admitted at our institute between October 2020 and January 2021. A total of 70 patients were hospitalized; the case records of these patients were reviewed for demographic characteristics, comorbidities status, clinical presentation, investigations, and treatment. The status of patients who were discharged from the hospital was telephonically sought at 3 months after hospital discharge. The outcome at 3 months was recorded as living or deceased.

The mean age of the study cohort was 48.6 ± 14.3 years with predominantly males (76%). All the patients were hypertensive. Diabetes mellitus and preexisting heart disease were present in 51.4% and 18.5% of patients, respectively. Twenty-five (35%) patients presented with fever, and 11 (18.5%) had altered sensorium. A total of 41 (58%) patients required supplemental oxygen therapy. Twenty-nine (41%) patients received steroids for severe COVID-19.

Of the 70 patients, 15 (21.4%) expired during the hospital stay and 55 were discharged from the hospital.

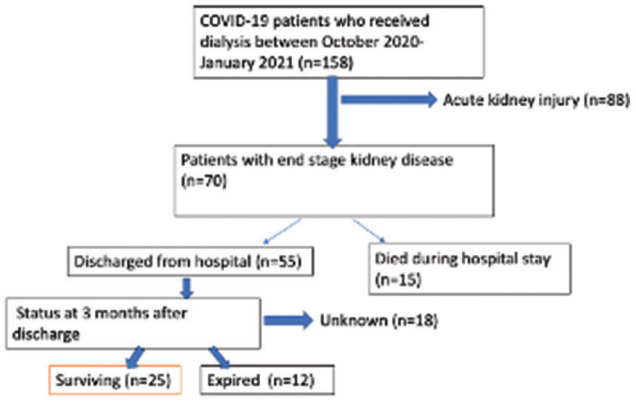

Figure 1: Study CONSORT (Consolidated Standards of Reporting Trials) flow diagram

Telephonic contact for ascertaining outcome at 3 months after hospital discharge could be established with only 37 patients [Figure 1]. After discharge, 12 of 37 patients had expired within 3 months. Comparative characteristics of the survivors (*n* = 25) at 3 months post discharge and non-survivors (*n* = 27) who died either during hospitalization or post discharge are shown in Table 1. We observed a 52% (27 out of 52) mortality rate at 90 days for patients with ESKD and COVID-19. Non-survivors were older and more commonly had diabetes and required of oxygen therapy or ventilator. Steroid use was higher in the non-survivor group. However, none of the studied factors were independently associated with mortality.

Approximately half of the patients with ESKD and COVID-19 died during or within 90 days of hospitalization. The in-hospital mortality rate of 21.4% is comparable with what has been reported.[5] However, 32.4% of those who were discharged and could be contacted at 3 months after discharge had also expired. This observation highlights a very high risk of adverse outcomes in patients with ESKD and COVID-19. Among patients who were discharged but could not be contacted at 3 months, it is likely that outcomes might have been at least similar. Also, the comparison of outcomes with other cohorts of patients with COVID-19 might have yielded more meaningful comparisons. ESKD patients are highly vulnerable in the current COVID-19 circumstances and, therefore, we suggest the need for a meticulously planned follow-up to understand the reasons and possibly find approaches to decrease post-COVID-19 mortality.

Table 1: Demographic and clinical characteristics

Variables	Survivors (*n*=25)	Non-survivors (*n*=27)
Males	17 (68%)	23 (85%)
Mean age (years)	44±15	53±12
Preexisting diabetes mellitus	10 (40%)	19 (70%)
Preexisting heart disease	3 (12%)	7 (26%)
Fever	12 (48%)	13 (48.1%)
Altered sensorium	5 (20%)	6 (22.2%)
Hypoxia	11 (44%)	20 (74%)
Ventilator requirement	2 (8%)	6 (22.2%)
Shock	0 (0%)	4 (14.8%)
Received steroids	8 (32%)	13 (48.1%)
Received remdesivir	1 (4%)	1 (3.7%)

Note: Frequency data are expressed as *n* (%)

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Conflicts of interest

There are no conflicts of interest.

Jasmine Sethi, Vivek Kumar, Ashok K. Yadav, Joyita Bharti, Smita S. Divyaveer, Raja Ramachandran, Manish Rathi, Harbir S. Kohli

Department of Nephrology, Post Graduate Institute of Medical Education and Research, Chandigarh, India

Address for correspondence:
Dr. Jasmine Sethi,
Department of Nephrology, Post Graduate Institute of Medical Education and Research, Chandigarh, India.
E-mail: jasmine227021@gmail.com

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