

Clinical symptoms in 41 haemodialysis (HD) patients who survived and recovered from COVID-19 in relation to age and hospitalisation – an international experience

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Introduction

- COVID-19 infection has affected multiple countries over 2020. The disease is characterized by symptoms of acute respiratory tract infection and can precipitate multi-organ failure in vulnerable groups.
- Patients undergoing long-term in-centre haemodialysis (ICHHD) are highly vulnerable to poorer outcomes with COVID-19 infection because of a number of clinical factors including multimorbidity and functional immune system deficiency. Furthermore the need for frequent visits to a dialysis facility restricts this population's ability to shield themselves from exposure to the virus.
- Limited information is available regarding the clinical characteristics of COVID-19 in patients receiving ICHHD or outcomes after hospitalization.

Methods

- Data on patients presenting with symptoms suspicious of COVID-19 or a high risk contact with an individual with COVID19 were extracted from the Davita International COVID-19 registry between 02/28/2020 and 05/15/2020.
- Symptoms were classified as **Asymptomatic** (no symptoms), **Mild** (eg. low grade fever, cough, myalgia but not debilitating/able to carry out activities of daily living), **Moderate** (Persistent fever >37.8, continuous cough, dyspnoea on exertion; able to carry out activities of daily living with some support) or **Severe** (Difficulty breathing at rest, tachypnoea (RR>24), saturations <93% at rest; unable to carry out activities of daily living)
- Hospitalizations and time to recovery was evaluated using the same registry. Statistical comparisons were made between groups using Chi-2 analysis and Kruskal-Wallis tests.

Characteristics of ICHHD patients recovered from COVID19 infection

	Asymptomatic	Mild symptoms	Moderate symptoms	Severe symptoms
All patients	27.3	38.6	31.8	2.3
<70 years	36.2	41.1	22.7	0
≥70 years	17.9	36.7	40.9	4.5
Hospitalized	75	86.7	100	2.8
Time to recovery (days)	27	25	30	41

There was no significant difference in the distribution of clinical symptoms severity between the age groups, in relation to hospitalization or time to recovery.

Objective

The aim of the investigation was:

- to evaluate clinical symptom severity in ICHHD patients who had tested positive for SARS-CoV-2 using polymerase chain reaction (PCR) in five countries
- to assess whether symptom severity at time of presentation associated with age, time to recovery or hospitalisation

Results

- 539 patients on maintenance ICHHD at DaVita clinics in five countries were tested for presence of infection with SARS-CoV-2 using nasopharyngeal swab polymerase chain reaction (PCR) between March to May 2020. 108/539 HD patients (20%) had a COVID19 positive swab PCR test.
- As of 25th May 2020, 41/108 patients have recovered from COVID19 (Germany 13 patients, Poland 12, Portugal 12, Colombia 2 and Malaysia 2)
- 22 patients were ≥ 70 years and 9 patients >80 years. Symptoms in relation to age, hospitalization and time to recovery are shown in the table.

Conclusion

- The majority of ICHHD patients (66%) who recovered from COVID-19 were asymptomatic or had mild clinical symptoms during the infection.
- There were no association in the presence of COVID19 symptoms from SARS-CoV-2 with age, hospitalization or time to recovery.
- Older patients with confirmed COVID-19 who recovered had trivial symptoms of the disease.
- The underlying mechanisms to the divergence of symptoms in HD patients warrant further investigations.

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