



## Incidence and factors associated with COVID-19 in 13 hemodialysis units

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Editor,

We have read with great interest the most important manuscripts published in *Int Urol Nephrol* on COVID-19 in hemodialysis (HD) patients [1–5]. As so, we can provide our experience presenting an observational, prospective, multicenter study in a cohort of 668 HD patients from 6 hospital units and 7 peripheral HD centers, obtained between March 11th and April 17th of 2020. In this study, we analyzed the data from all the Rt-PCR collected in all HD units in Extremadura (Spain). The territorial scope exceeds one million people, and the data cover both healthcare settings: hospital and peripheral HD clinics (out-of-hospital).

We studied the incidence of COVID-19 in HD patients, the clinical characteristics, the factors related to the infection and the profitability of the diagnosis by Rt-PCR in this population. The number of tests done has to be considered in the context of the first wave of the pandemic in which the magnitude of the health crisis in general population limited the availability of the tests, making its optimization

essential. The average number of extractions was 2.6 a day, with a maximum peak of 8 extractions on March 24th. A total of 99 Rt-PCRs were performed in the study period; 14.8% (99/668) of the prevalent HD patients were analyzed using this test. This percentage was higher in hospitals compared to peripheral centers (24.4% vs. 10.8%). 58.6% (58/99) of the samples were obtained in patients with suspected COVID-19 symptoms, the rest were taken from asymptomatic patients. 18.2% of the samples were positive (18/99), a percentage that rises to 25.9% (15/58) in symptomatic patients and falls to 7.3% (3/41) in asymptomatic patients. 72.2% (13/18) of positive samples were from the province of Cáceres (which includes 2 hospital units and 4 peripheral HD centers), where the infection rate among the general population was higher. Cough was the main predictive symptom ( $p=0.013$ ), however, including all the parameters in a multivariate analysis, we did not find any variable that reached statistical significance. The incidence of confirmed cases showed an increasing trend between March 13th and April 11th, slowing down in the ultimate week, possibly

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due to the very restrictive measures adopted by the Spanish government. The prevalence was 2.7% (18/668), with marked variability between hospital and peripheral units and between different health areas. Due to the high percentage of positive patients who were asymptomatic, 7% in our study and up to 40% in others [6], probably both the incidence of confirmed cases and prevalence of COVID-19 in our units are likely to be higher than the rates detected, given the fact that Rt-CRP was not determined in all of patients for the above-mentioned reasons. Nevertheless, the data from our study confirm the tendency known from other studies in our setting [6–10]. This study reflects the exposure and initial management of the pandemic in a region of Spain, which was one of the most severely affected European countries, together with Italy, at the beginning of the pandemic.

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## Declarations

**Conflict of interest** Authors declare no competing financial interests in relation to the article and its content.

**Ethical approval** This article does not contain any studies with animals performed by any of the authors. All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards.

**Informed consent** Informed consent was exceptionally exempted by the Clinical Research Ethical Committee during the COVID-19 pandemic.

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