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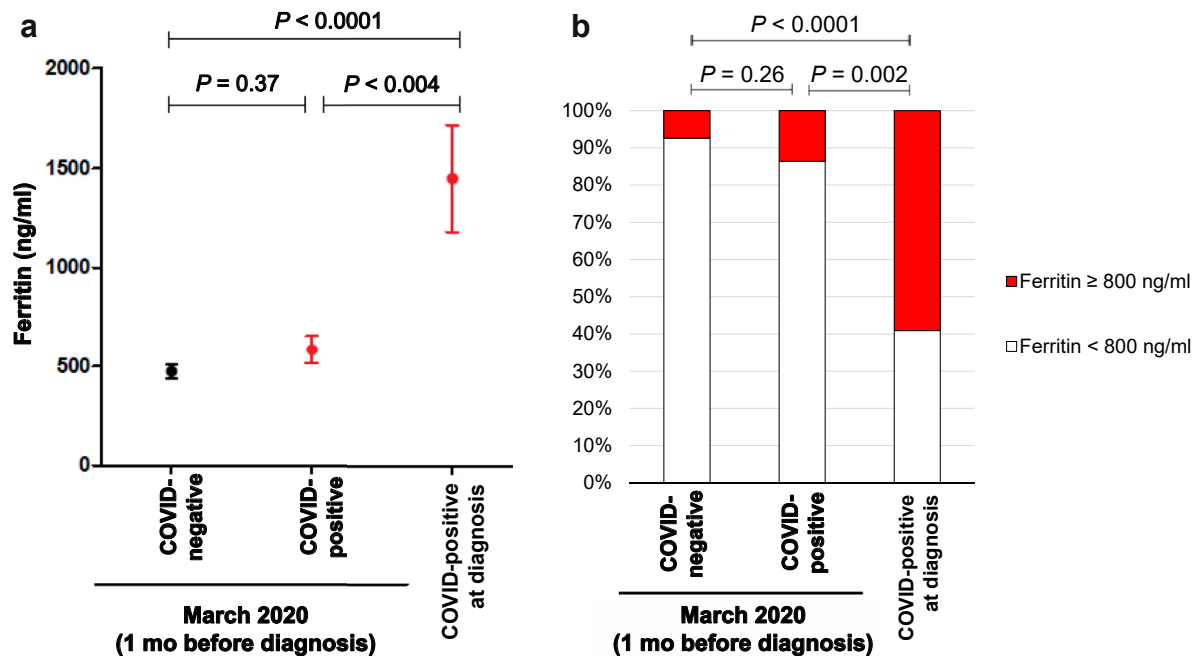


Figure 1 | Ferritin levels of coronavirus disease (COVID)–negative (n = 268) and COVID-positive (n = 22) patients receiving hemodialysis at our center prior to and at COVID diagnosis. (a) Comparison of ferritin levels during the first week of March 2020 (before the coronavirus disease 2019 [COVID-19] epidemic had occurred at our center) and at diagnosis of COVID-19 (Student t test). The first COVID-19 case in our center was diagnosed on March 18, 2020. (b) Rate of patients with ferritin levels greater than 800 ng/ml during the first week of March 2020 and at diagnosis of patients who tested negative and positive for COVID-19 (χ^2 test).

dialysis center in the month preceding viral infection and during infection and found a critical difference (Figure 1). In the patients who tested positive for COVID-19, the mean (\pm SD) ferritin levels in March (before viral infection) and at diagnosis were 584 ± 318 and 1446 ± 1261 ng/ml, respectively, which was a mean increase of 275%. Interestingly, ferritin levels were increased at diagnosis in the 5 asymptomatic patients as well as in the patients with symptoms (mean \pm SD, 1209 ± 1292 and 1535 ± 1280 ng/ml, respectively). Ferritin levels remained stable or decreased very slowly during the whole period of sickness in almost all patients. The pathophysiological mechanisms underlying high ferritin levels have not been totally explained at this time, and some investigators have reported a cytokine storm syndrome or macrophage activation syndrome; however, in our cohort, ferritin levels were not correlated with C-reactive protein (data not shown).^{4,5}

Screening for COVID-19 in hemodialysis centers is crucial so that infected patients can be isolated and to protect noninfected patients. Ferritin could be a helpful, available, and easy-to-use screening tool for the disease, although we believe that more research still is needed.

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De-isolation of COVID-19–positive hemodialysis patients in the outpatient setting: a single-center experience



To the editor: The advice for patients presenting with coronavirus disease 2019 (COVID-19) symptoms is to self-isolate for 7 days after the onset of symptoms for the individual case and

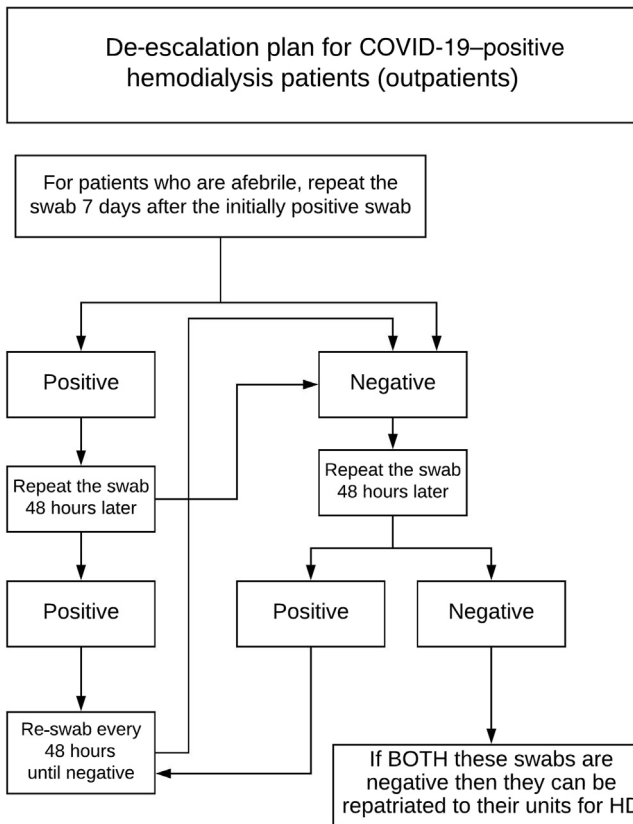


Figure 1 | De-escalation plan for coronavirus disease 2019 (COVID-19)-positive dialysis patients. HD, hemodialysis.

14 days for the household.¹ Dialysis patients can be considered as immunocompromised and display a decreased ability to develop seroconversion to infectious diseases.² Therefore, 7 to 14 days may not be an appropriate threshold in a dialysis population. In our center, we provide dialysis in 2 hospital-based and 6 satellite units, for a total of 664 patients (see [Supplementary Methods](#)). We isolated our COVID-19-positive dialysis outpatients in a dedicated unit and followed a pathway for de-escalation of stable patients with serial COVID-19 swabs, starting 7 days after confirmed diagnosis ([Figure 1](#), [Supplementary Table S1](#)). Thirty-four COVID-19-positive patients who had at least 3 swabs were included: 20 patients were de-isolated in less than 14 days (59%) with 9% on day 9. By day 12, 35% of patients could be dialyzed in their base unit (which is crucial for capacity). However, by day 15, 14 patients (41%) had not cleared the virus and could not be repatriated: 5 patients cleared the virus later (median of 18 days [range, 16–21]) and 9 patients were still positive or had only one negative swab at the end of follow-up. It is unclear whether detection of viral RNA represents the ability to transmit the virus,^{3,4} but until more evidence is available, it would be prudent to isolate patients as discussed to prevent cross-contamination in this high-risk population.

DISCLOSURE

SG reports personal fees from Astellas, Enterobiotix, Menarini, MSD, Pfizer, and Shionogi, outside of the submitted work. All the other authors declared no competing interests.

SUPPLEMENTARY MATERIAL

[Supplementary File \(PDF\)](#)

Supplementary Methods.

Table S1. Demographics of the patients followed-up in a COVID-19-dedicated dialysis unit.

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SARS-CoV-2 in the peritoneal waste in a patient treated with peritoneal dialysis



To the editor: We describe for the first time the detection of severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) in the peritoneal waste of a patient with coronavirus disease 2019 and end-stage kidney disease on peritoneal dialysis. A 53-year-old Caucasian female affected by fibrillary glomerulonephritis and on peritoneal dialysis since November 2019 was admitted to our hospital on March 9 with fever, cough, headache, myalgia, and mild hypoxemia. Chest computed tomography showed bilateral multiple ground-glass opacities but the initial nasopharyngeal swab for SARS-CoV-2 was negative. Her laboratory tests showed mild lymphopenia (0.87×10^9) and increased C-reactive protein (128 mg/l) and D-dimer (2213 ng/ml) levels. Because her computed tomography, clinical, and laboratory findings were highly suspicious for coronavirus disease 2019, the patient was isolated and treated with lopinavir and (with) ritonavir, hydroxychloroquine, low-molecular weight heparin, and tocilizumab. One month after admission, a second nasopharyngeal swab was positive. During this period, she became anuric. Despite increasing the osmolarity of peritoneal dialysis solutions, she developed pulmonary edema. At that time, we