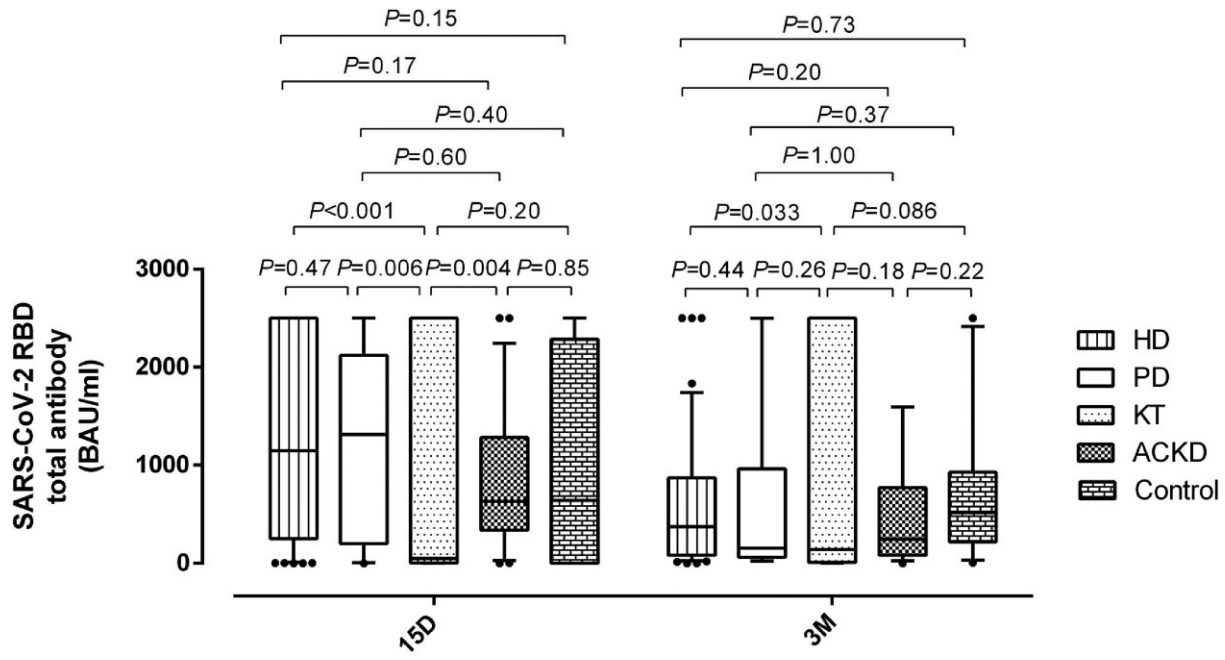

transplantation (KT) ($n = 30$) or advanced chronic kidney disease not on dialysis (ACKD), and healthy controls ($n = 18$). Anti-Spike(S) antibody and T-cell responses were assessed at 15 days (15D) and 3 months (3M) after vaccination.

RESULTS: Anti-S antibodies at 15D and 3M were detectable in 95% (48/50)/98% (49/50) of HD patients, 93% (13/14)/100% of PD patients, 67% (17/26)/75% (21/28) of KT patients and 96% (25/26)/100% (24/24) of ACKD patients. Rates for healthy controls were 81% (13/16)/100% (17/17). Antibody levels decreased at 3M in HD ($P = 0.04$), PD ($P = 0.008$) and ACKD patients ($P = 0.0009$). In KT, patients levels increased ($P = 0.04$) between 15D and 3M, although they were low at both time points.

Detectable T-cell responses notably increased at 3M in HD patients ($P < 0.022$). In PD, patients response increased by 15D (13/14; 93%) and 3M (9/9; 100%), while they were present in KT patients at 41% (12/27), 84% (22/26) and 96% (25/26) at baseline. Detectable T-cell responses in ACKD patients reached 80% (20/25) and 89% (17/19) at 15D and 3M, respectively. whereas in healthy controls it was 67% and 89% at 15D and 3M.

CONCLUSION: Most HD, PD and ACKD patients develop SARS-CoV-2-S antibody responses comparable to that of healthy controls, in contrast to KT recipients. Antibody waning at 3M was faster in HD, PD, ACKD patients. No differences in SARS-CoV-2 T-cell immunity responses were noticed across study groups.

MO878 DOES HAEMODIAFILTRATION VERSUS HAEMODIALYSIS HAVE CLINICAL BENEFITS FOR COVID-19 SEVERITY AND MORTALITY IN MAINTENANCE HAEMODIALYSIS PATIENTS?

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BACKGROUND AND AIMS: It has been demonstrated that online haemodiafiltration (HDF) provides higher clearance of middle molecular solutes compared with high-flux haemodialysis (HD) due to its convective component and may improve clinical outcomes in maintenance haemodialysis patients. However, the clinical superiority of HDF compared with standard HD is still controversial. Moreover, there is a general lack of these data on the current topic in patients infected with COVID-19. The present study aimed to prospectively analyze whether HDF has benefits for COVID-19 severity and mortality in maintenance haemodialysis patients.

METHOD: A total of 340 maintenance haemodialysis patients aged 53.5 ± 12.9 years and a median dialysis vintage of 40 (24–74) months were included in this prospective multicentre cohort study conducted across 5 dialysis centers. All patients were not infected with COVD-19 at the time of the enrollment and subsequently followed up from March 2020 to September 2021 (the mean duration was 7 (4.2–15.4) months). The study outcomes were COVID-19-associated hospitalization needs due to supplemental oxygen requirements and COVID-19-associated mortality.

The data were presented as the mean and the standard deviation (M ± SD) or the median and the interquartile ranges [Me (Q25–Q75)] and compared using the Student's *t*-test or the Mann–Whitney *U*-test as appropriate. The Chi-squared test was used to determine the differences between categorical variables. The univariate logistic regression analyses were performed to evaluate the predictive factors for COVID-19-associated severity and mortality. Then, the Cox proportional-hazards regression model was carried out using the factors found to be significant by the univariate analysis.

RESULTS: Among the enrolled patients, there were 312 (91.7%) patients on HDF and 28 (8.3%) patients treated with HD. Sex ($\chi^2 = 1.12$ $P = 0.29$), age (55.3 ± 12.9 versus 59.6 ± 12.5 years; $P = 0.07$) and dialysis vintage [40 (23–72) versus 45 (29–84) months; $P = 0.39$] did not differ between the HDF and the HD groups at the study entry. During the follow-up period, 98 out of 312 (31.4%) of the HDF patients and 16 out of 28 (57.1%) of the HD patients were infected with COVID-19 ($\chi^2 = 9.6$; $P = 0.001$). Among them, there were 54 out of 98 (55.1%) of the HDF patients and 12 out of 16 (75%) of the HD patients who required hospitalization with oxygen

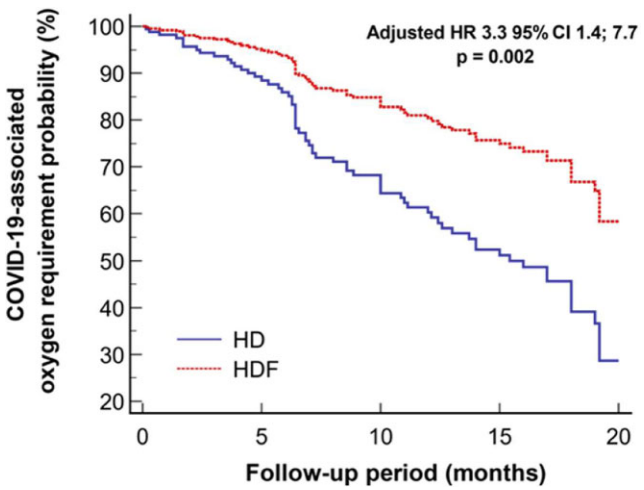

FIGURE 1: Probability curves of COVID-19-associated hospitalization with oxygen supplementation (adjusted for age, diabetic status, dialysis vintage and blood flow) in the HDF patients compared with the HD patients.

supplementation ($\chi^2 = 12.6$; $P = 0.0004$). Out of 98, 4 (4.1%) of the HDF patients and 5 out of 16 (31.2%) of the HD patients died ($\chi 2 = 31.3$, $P < 0.0001$) during the follow-up period. In the univariate logistic regression analysis, older patient age {OR: 1.03, [95% confidence interval (95% CI) 1.01–1.05]}, diabetic status (OR: 2.8, 95% CI 1.4–5.5), long dialysis vintage (OR: 1.07, 95% CI 1.03–1.1), low blood flow (OR: 1.04, 95% CI 1.02–1.08) and HD treatment (OR: 4.1, 95% CI 1.5–11.2) were significantly associated with the requirement of oxygen supplementation. In the Cox regression model adjusted for all mentioned factors, HD treatment was significantly associated with COVID-19 severity and oxygen requirement (Figure 1). However, when we performed the same model to predict COVID-associated mortality, HD treatment lost its significance, and only patient age ($P = 0.02$) and dialysis vintage ($P = 0.004$) were significantly associated with reduced survival.
CONCLUSION: The HDF patients required fewer hospitalizations and oxygen support and had a lower mortality rate compared with the HD patients. Although HDF treatment versus HD treatment was significantly associated with better COVID-19 outcomes in our cohort, a predictive conclusion of the study was limited by the small sample size of the HD group and a relatively short follow-up period. Further large-scale studies are needed to determine the role of HDF versus HD in COVID-19-associated severity and mortality in maintenance haemodialysis patients.

MO879 PREVALENCE, RECURRENCE AND SEASONAL VARIATION OF HYPERKALAEMIA IN PATIENTS RECEIVING THRICE-WEEKLY HAEMODIALYSIS

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BACKGROUND AND AIMS: Prospective cohort studies have shown that among patients on haemodialysis, hyperkalaemia is strongly associated with excess risk for cardiovascular-related hospitalizations and sudden cardiac death [1–4]. However, the actual burden of hyperkalaemia, the rates of its recurrence and seasonality in its variation still remain unclear.
METHOD: Between June 2020 and May 2021, 1786 mid-week predialysis serum potassium (sK) measurements were retrospectively recorded from 149 patients receiving thrice-weekly haemodialysis in a single-centre in Thessaloniki, Greece. The prevalence, recurrence and seasonal variation of hyperkalaemia were assessed using three prespecified sK thresholds (≥5.1, ≥5.5 and ≥ 6.0 mmol/L).
RESULTS: At baseline (June 2020), 60.4%, 42.2% and 13.4% of patients had sK levels ≥ 5.1, ≥5.5 and ≥ 6.0 mmol/L, respectively. At any time-point during the 1-year-long follow-up, 85.2%, 69.8% and 38.9% of patients experienced at least 1 hyperkalaemic episode at the sK threshold of ≥ 5.1, ≥5.5 and ≥ 6.0 mmol/L, respectively. Of the 104 patients experiencing an initial sK elevation ≥ 5.5 mmol/L, hyperkalaemia at the same threshold reoccurred in 60.6% at month-1, in 47.1% at month-2 and in 46.1% at month-3 of follow-up. Seasonal variation was also observed, with the prevalence of hyperkalaemia to be significantly higher in summer. In multivariate logistic regression analysis, shorter delivered haemodialysis < 4 h/session {odds ratio (OR): 2.568; [95% confidence interval (95% CI): 1.045–6.313]} and the use of a high versus a low K concentration in the dialysate (OR: 14.646; 95% CI: 2.727–78.647) were the two factors that were associated with a significantly higher odds of hyperkalaemia at any time-point of the follow-up period.
CONCLUSION: The present study shows that among patients receiving conventional thrice-weekly haemodialysis, the rates of hyperkalaemia prevalence and recurrence are very high, reflecting the large unmet need to identify more effective potassium-lowering therapeutic interventions in this high-risk population.

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MO880 CLINICAL CHARACTERISTICS ASSOCIATED WITH HUMAN ACTIVITY PROFILE SCORES IN HEMODIALYSIS PATIENTS WITH THYROID DYSFUNCTION: A SUBSTUDY OF THE NIH THYROID-HD TRIAL

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BACKGROUND AND AIMS: Low physical activity is common in hemodialysis (HD) patients and is associated with adverse outcomes in this population (poor health-related quality of life, cardiovascular [CV] disease, death). Prior studies show that hypothyroidism is highly prevalent in HD patients, and is associated with worse self-reported physical function.
METHOD: In a substudy of the ongoing multi-center NIH THYROID-HD Trial, we examined baseline physical activity scores determined by the Human Activity Profile (HAP), a validated 94-item instrument assessing daily activities across a wide range of energy expenditures, in HD patients with TSH levels in the high-normal (TSH >3–5 mIU/L) and subclinical hypothyroid range (TSH >5–10 mIU/L). The HAP was used to derive the Maximum Activity Score (MAS) and Adjusted Activity Score (AAS), representing greatest and mean estimated energy expenditures, respectively (range 0–94, segmented to low [<52], moderate [54–73] and high [>74] scores).
RESULTS: Among 100 HD patients who underwent baseline HAP assessment, the mean ± SD MAS and AAS scores were 48 ± 22 and 23 ± 27, respectively; median (IQR) MAS and AAS scores were 49 (31–64) and 9 (0–39), respectively (Figure 1). In the overall cohort, 83% had low, 10% moderate and 7% high AAS scores. MAS and AAS scores were significantly lower in patients who had underlying diabetes versus those without diabetes (Table 1). There was also a trend towards lower (worse) MAS and AAS scores among older versus younger patients (≥65 versus >65 years, respectively) and patients with underlying coronary artery disease (CAD) versus those without CAD. In logistic regression analyses, older age (+Δ 1-year increments) was associated with higher likelihood of low MAS scores, and diabetes trended towards a