agents in dialysis patients. The main information we wanted to obtain concerned the attitude towards the need for a dialysis session after the administration of a contrast agent (iodate or gadolinium), the timing respect to the contrast examination and the duration of the dialysis session.

A total of 50 Italian nephrologists of 50 dialysis centres, respectively, responded to the questionnaire. The average number of chronic dialysis patients treated per single centre was 94 (median 80, interquartile range 46–135), meaning that these are representative of a population of at least 5000 haemodialysis patients.

RESULTS: After intravascular iodinated contrast agent, according to the ESUR guidelines 9 nephrologists (18%) do not perform an additional dialysis, while 34 nephrologists (68%) carry out an additional dialysis session (or organize the contrast examination to coincide with the scheduled dialysis session) (Fig. 1). A total of 32 nephrologists (64%) perform a specific dialysis session after magnetic resonance with gadolinium, as indicated in the ESUR guidelines (Fig. 2). In both cases (iodinated contrast agent or gadolinium), 28 nephrologists (56%) schedule the dialysis session within 4 h of the contrast examination (at least 2 h of treatment or complete dialysis session if possible).

Remarkably, 10 nephrologists (20%) do not organize a specific dialysis section after MR with gadolinium (Fig. 2).

CONCLUSION: Our data confirm that in Italy, the majority of nephrologists still carry out an additional dialysis session after the administration of an iodinated contrast agent to avoid the potential risk of delay and adverse effects (intravascular volume expansion, pulmonary edema, depression of myocardial contractility and arrhythmias). Haemodialysis is an expensive procedure, in particular when performed as a nonscheduled emergent treatment at odd hours of the day or night. Further studies are needed to clarify this controversial point.

MO910 ANTI-COVID-19 VACCINATION AND HAEMODIALYSIS: SAFETY DURING THE HAEMODIALYSIS SESSION

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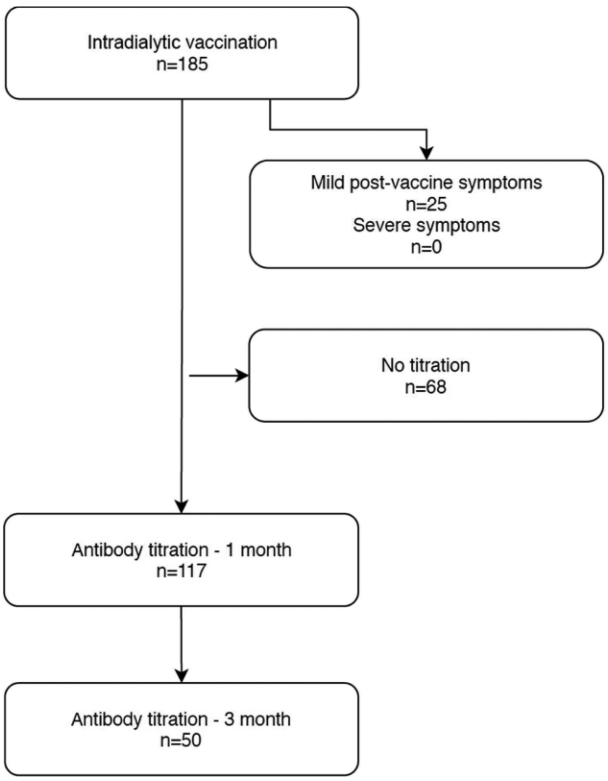

BACKGROUND AND AIMS: A complex interplay lies between COVID-19 infection and kidney disease. Patients with COVID-19 are at an increased risk of acute kidney injury (AKI), while CKD patients represent a population at a high risk of mortality from COVID-19 [1]. For 3 years, our hospital has been running an intradyalitic vaccination project (HBV, Haemophylus, Pneumococcus, Influenza) for haemodialysis patients. No data regarding the anti-COVID-19 vaccination administered during the dialysis session are available yet. This is a safety study aimed at defining the feasibility of this vaccination protocol.

METHOD: A total of 186 haemodialysis patients from 3 centres were vaccinated with the Spikevax-Moderna vaccine (Fig. 1). According to Italian law, patients with a COVID-19 infection in the previous 12 months received only one dose. The administration was performed between 1 and 2 h after the start of the dialysis session. Data regarding mild adverse events were collected. In 117 patients, a titration of the anti-RBD S1 antibodies of the virus spike antigen was performed 1 month after the completion of the vaccination [2]. Therefore, a new titration was obtained after 3 months in 50 patients.

RESULTS: Of the 117 patients, 65 (55.5%) were male, with a mean age of 69.2 $\pm$ 13.1 years. Of these, 25 patients (21.3%) showed mild adverse events without compromising dialysis administration. No serious adverse events took place. Seroconversion was noticed in 111 patients (94.9%) after 1 month, with a mean anti-RBD S1 antibody titer of 751.1 $\pm$ 610.5 BAU/mL. When a new titration was performed after 3 months, the titer decreased to 203.1 $\pm$ 134.3 BAU/mL (*t*-test; P = 0.005).

CONCLUSION: Intradialytic vaccination is a procedure with an excellent safety profile that may be implemented in dialysis settings. Further studies should be permormed to confirm these results.

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MO911 PREVALENCE OF SARS-COV-2 CELLULAR AND HUMORAL IMMUNITY IN DIALYSIS PATIENTS AFTER 8 MONTHS OF VACCINATION CAMPAIGN IN PORTUGAL

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BACKGROUND AND AIMS: Immunization of dialysis dependent patients remains the single most important protective approach in prevention of serious COVID-19 infection. This study aims to characterize the prevalence of humoral and cellular immunity in maintenance dialysis patients (MDP) in a Nephrology Centre, 8 months after vaccination onset.

METHOD: A single-center cross-sectional study enrolling patients on peritoneal (PD) and haemodialysis (HD) from a public-funded Portuguese Nephrology Centre. This study evaluated both humoral and cellular immunity to the COVID-19 vaccination. Humoral response was measured as specific IgG (S-RBD IgG), and cellular response as T-cell reactivity through IFN- γ quantification as response to antigen (IGRA). Further demographic and clinical variables were obtained to assess the risk factors of low immunity.

RESULTS: Of the 86 patients enrolled, 79.4% and 84.1% showed humoral and cellular immunity, respectively. Quantitatively, IgG S-RBD titers correlated with specific T-cell reactivity ($\rho = 0.58$, $P < 0.001$). Vaccination before dialysis initiation was associated with an absent cellular response ($P = .006$). Subgroup analysis associated high comorbidity burden (quantified through the Charlson comorbidity index) and low serum albumin levels as predictors of immunity ($P < 0.05$, variable). PD patients showed lower cellular response (297.1 mUI/mL versus 695.4 mUI/mL, $P = 0.03$) at 8 months following BNT162b2.

CONCLUSION: The prevalence of humoral and cellular immunity against SARS-CoV-2 in vaccinated Portuguese MDP is high. Vaccination in imminent pre-dialysis patients, high comorbidity burden and low serum albumin are some of the identified risk factors for absent immunity. PD-associated effector memory T-cell changes are suggested as contributing to the difference verified in cellular response.

Table 1. Descriptive group and subgroup analysis

	Complete sample$n = 88$	Subgroup A$n = 79$	Subgroup B$n = 68$
Age (years), mean (σ)	69.9 (12.7)	70.4 (12.5)	70.2 (13.2)
Sex (female/male), *n* (%)	30 (34.1)	29 (36.7)	23 (33.8)
Modality (HD/PD), *n* (%)	67 (76.1)	60 (75.9)	49 (72.1)
	21 (23.9)	19 (24.1)	19 (27.9)
Dialysis vintage at vaccination, months, mean (σ)	-[a]	-[a]	29.7 (26.7)
Diabetes, *n* (%)	38 (43.2)	35 (44.3)	31 (45.6)
Charlson comorbidity index, mean (σ)	6.8 (2.5)	6.8 (2.5)	6.8 (2.5)
Nephrosclerosis, *n* (%)	24 (27.3)	22 (27.8)	18 (26.5)
Immune disorders, *n* (%)	7 (8)	5 (6.3)	2 (2.9)
CKD stage at vaccination			
Maintenance dialysis, *n* (%)	79 (89.8)	74 (14.8)	68 (100)
Stage 5 CKD, *n* (%)	9 (10.2)	5 (6.3)	0
Time from vaccination to immune status evaluation	-		8 months
Vaccine			
BNT162b2, *n* (%)	78	72	68
ChAdOx1 nCov-19, *n* (%)	6	5	0
Ad26.COV2.S, *n* (%)	2	2	0
None, *n* (%)	2	0	0
Contact with SARS-CoV-2			
COVID-19 infection, *n* (%)	3	0	0
Asymptomatic, *n* (%)	4	0	0
Humoral response			
IgG-RBD (AU/mL), median (IQR)	4.6 (14)	4.7 (12.8)	4.6 (11.4)
NR, *n* (%)	19 (21.6)	16 (20.3)	14 (20.6)
Cellular response			
IGRA (mUI/mL), median (IQR)	574.8 (1376.9)	571.8 (940.6)	530 (914.9)
NR, *n* (%)	14 (15.9)	11 (13.9)	10 (14.6)
Laboratory variable			
sALB, mean (σ)	3.5 (0.5)	3.6 (0.4)	3.6 (0.4)
iPTH, mean (σ)	301.1 (317.7)	310.7 (318.2)	328.6 (331.5)
CRP, mean (σ)	1.1 (1.5)	1 (1.5)	1 (1.6)

σ: standard deviation; CKD: chronic kidney disease; IQR: interquartile range; IGRA: interferon-γ release assay; NR: non-responsive; sALB: serum albumin; iPTH: intact parathormone; CRP: C-reactive protein.
[a]Both groups included patients who were not on dialysis.

MO912 **DIFFERENT IMMUNOGENICITY OF PREVIOUS SARS-COV-2 INFECTION OR COMIRNATY VACCINE (BNT162B2, BIONTECH/PFIZER) IN HAEMODIALYSIS PATIENTS**

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BACKGROUND AND AIMS: The pandemic emergency deriving from the SARS-CoV-2 infection has made it necessary to find effective strategies to preserve high-risk populations with severe comorbidities like haemodialysis patients. Adequate vaccination coverage is of vital importance, representing the main weapon to counter the spread of the virus.

The purpose of our study was to evaluate the antibody response of our dialysis patients vaccinated with the Comirnaty-BioNTech/Pfizer vaccine in comparison with those with previous infection.

METHOD: We retrospectively analysed 52 patients referred to the Dialysis Unit of University Hospital G. Martino, Messina, from 2020 to 2021. Of these, 41 patients had never contracted SARS-CoV-2 (group A), while 11 patients had contracted the infection (group B). Serum samples were taken before vaccine administration, 3 months and 6 months after administration. A linear mixed model was performed on the measurements to analyse the difference in antibody response, comparing the values of neutralizing IgG and anti-COVID-19 antibodies during time (Fig. 1).

RESULTS: The results showed a statistically significant higher titre of anti-spike antibodies in patients with a previous infection ($P = 0.003$), with a stronger association at 6 months after infection. The linear mixed model showed a significant association over time between infection and antispike (ln U/L) in the univariate model, which was confirmed in the multivariate model {adjSlope: 2.9, [95% confidence interval (95% CI) 1.3–4.6]; $P = .001$}. No other variables were related to antispike.

CONCLUSION: These findings can raise novel questions on the role of natural immunity and antibody titre in the haemodialysis population.