Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

hospitalization, qualitative serological testing measuring antibody against SAR-CoV-2 was tested- SAR-CoV-2 IgG antibody was positive and SAR-CoV-2 IgM antibody was negative. He was allowed home on day 10.

Results: We described a case of dialysis dependent ESRF who developed a COVID-19 infection after recovered well from his first episode with clinical resolution based on his negative RT-PCR test result. Despites receiving his full vaccination in between episodes, he was infected for the second time. Reinfection is still possible however the possibility, frequency, infectivity, and severity on subsequent infection is yet to determine, especially in this cohort of population. The antibody data need to be interpreted with caution. Although we believe this is a probable case of reinfection, we cannot rule out the possibility of false positive result or cross reaction with another coronaviruses. Neither we cannot rule out the possibility of recurrent as we have lack of information on the viral strain. Multiple determinants including clinical factors and socioeconomic status play a role in determining the humoral response and the heterogenicity in antibody production in dialysis dependent patient. Thus, genomic sequencing analysis plays a role in diagnosis, identify the variant, determine the risk assessment, and provide a support strategy in managing COVID-19 infection especially in dialysis dependent patient. However, with the limited resources, the immediate strategies need to be empowered to strengthen the management of COVID-19 infection in this population.

Conclusions: This case represents the probability of reinfection with COVID-19 in dialysis dependent patient. Further understanding on the risk of reinfection, the humoral response in dialysis dependent patient and accurate laboratory support yet need to be explored, for better management strategies.

No conflict of interest

POS-973

MEASURING SERORESPONSE TO SARS-COV-2 INFECTION AND VACCINATIONS IN HAEMODIALYSIS PATIENTS

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Introduction: COVID-19 causes more severe disease and greater mortality in haemodialysis patients, who are often immunocompromised with attenuated response to vaccinations. The knowledge on antibody response to double dose Covid-19 vaccine and previous infection after the first surge is limited which this study investigated.

Methods: Serum samples were obtained from 26 haemodialysis patients. Serum anti-SARS-CoV-2 IgG to spike and nucleoprotein were measured using an in-house ELISA_reflecting responses to vaccination and native infection, respectively. Titres were measured and scored by titration point, with four-fold dilutions starting at 1:100. Scores 1-2 indicate a poor response and scores ≥4 indicate a good response in comparison with control participants.

Results: Mean age of participants was 67.7±12.9 (mean±SD) years. 10 participants were Caucasian, 3 participants were Black, 10 participants were Asian, 3 participants were of 'other' ethnic origin. 10 patients had diabetes mellitus and 14 patients had hypertension. 21 participants had received two vaccine doses, an average of 9±2.7 weeks apart. Of the participants, 19 had received the Pfizer-BioNTech vaccines, 6 had received AstraZeneca vaccines, and one was unknown. 7 participants had previous RT-PCR positive COVID-19 infection. 9 (34.6%) participants with no prior RT-PCR-positive SARS-CoV-2 infection demonstrated an antibody titre score of ≥3 to nucleoprotein. 8 (30.7%) participants had low or no serum IgG to spike protein (scores 1-2) despite having received one vaccine dose (n=2), had prior COVID-19 infection with one or two vaccine doses (n=2), or had two vaccine doses (n=4). A further 5 (19.2%) patients scored 3 despite having had two vaccine doses. Overall, 13 (50%) of participants did not generate a strong antibody response. No associations were seen between ethnicity, diagnoses of diabetes mellitus or hypertension or vaccine type, and antibody responses.

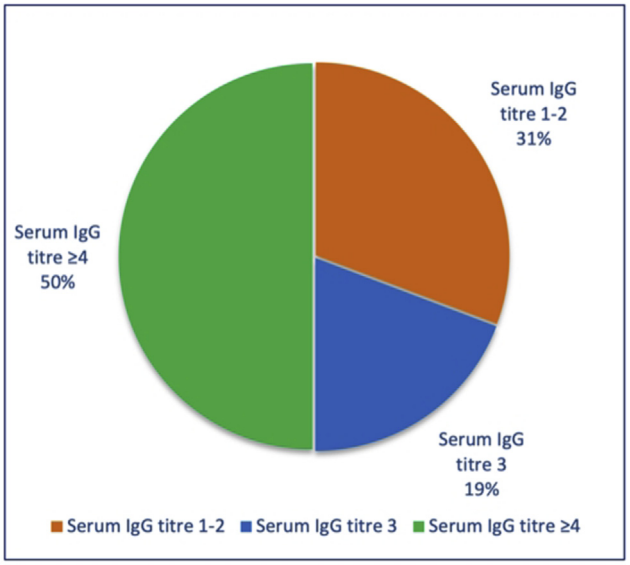

Figure : Serum IgG to SARS-CoV-2 Spike Protein. Antibody response to SARS-CoV-2 spike protein, reflecting vaccine seroresponse. 50% (n=13) had a serum IgG titre ≥4, 19% (n=5) had a serum IgG titre of 3, and 31% (n=8) had a serum IgG titre 1-2.

Patient demographics	Patients (n=26)
Age (years, mean±SD)	67.7±12.9
Sex	
Female	14 (54%)
Male	12 (46%)
Ethnicity	
Caucasian	10 (39%)
Black	3 (12%)
Asian	10 (39%)
Other	3 (12%)
Diabetes mellitus	10 (39%)
Hypertension	14 (59%)

Table: Patient demographics. Number of patients and percentage of sample given. SD, standard deviation.

Conclusions: This study found that half of patients demonstrated a sub-optimal vaccine response. Secondly, we identified prevalent undiagnosed infection. These data support the need for larger ongoing studies, with consideration of the impact of third vaccine

doses, the durability of protection, and the contribution of cellular immunity.

No conflict of interest

POS-974

AVAILABILITY AND PRIORITIZATION OF COVID-19 VACCINES AMONG PATIENTS WITH CHRONIC KIDNEY DISEASE AND KIDNEY TRANSPLANT - A GLOBAL SURVEY BY THE INTERNATIONAL SOCIETY OF NEPHROLOGY

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Introduction: Given the inequities in access to COVID-19 vaccination and the heightened vulnerability of patients living with advanced chronic kidney disease (CKD) or kidney transplant (KT), it is important to ascertain the availability, readiness, and prioritization of COVID-19 vaccines for this population globally.

Methods: Collaborators from ISN, DOPPS, and Global Kidney Health Atlas (GKHA) developed the survey, which was administered electronically to individuals in 174 countries representing all 10 ISN regions of the world between 2 July and 4 August 2021. Purposive sampling was undertaken to include at least one stakeholder in the kidney community per country, identified through the GKHA database, national societies, or ISN regional boards.

Results: 118 responses were received from 99 countries across all 10 ISN regions, giving a country response rate of 99/174 (57%). At least one vaccine was available in 96/99 (97%) countries. Oxford-AstraZeneca vaccine was available in all regions. Pfizer (9/10), Moderna (8/10), Johnson & Johnson (8/10) and Sputnik V (8/10) vaccines were also widely available.

Healthcare workers were the most common high-priority group for vaccination, being eligible within the first 2 phases in 91% of countries. Patients living with stage 4/5 CKD, dialysis, or KT were vaccinated during the first two phases in 51%, 71%, and 62% of countries respectively. Among 67 countries with >1 dialysis modality available, patients receiving in-centre haemodialysis (ICHD) were prioritized for vaccination over those receiving peritoneal dialysis (PD) or home HD (HHD) in 14 (21%). Vaccines were administered in the ICHD unit in 27 (33%) countries, most often by dialysis staff (16/27, 59%) and/or specially trained vaccination teams (15/27, 56%). Vaccination was performed before HD (6/27, 22%), after HD (10/27, 37%), on non-dialysis days (5/27, 19%), or without specific timing (6/27, 22%). The proportion of patients vaccinated varied greatly in different regions (Table 1). Overall, at least 50% of patients receiving ICHD, PD or KT were estimated to be fully vaccinated at the time of the survey in 55%, 64% and 51% of countries, respectively. The most common barriers to vaccination of patients (sometimes, frequently or always) were vaccine hesitancy (63/82, 77%), vaccine shortages (52/82, 63%) and vaccine mass distribution challenges (41/78, 53%), followed by lack of prioritization of patients with kidney disease (32/79, 41%), insufficient number of vaccination centres (26/81, 32%), lack of formal vaccination programs (15/81, 19%), staff shortages (15/79, 19%), and high out of pocket costs (4/81, 5%) (Figure 1). Vaccines were provided free of charge, sponsored by the government, in all countries except for one, they were paid for by the patient's insurance.

Conclusions: Despite the global availability of COVID vaccines, there is substantial worldwide variability in the prioritization of, approach to, and successful achievement of vaccination in patients with advanced CKD or KT. Key barriers identified in many countries were vaccine hesitancy, shortages and distribution challenges. Greater solidarity is required globally and locally to ensure equitable access to vaccination for patients living with CKD and KT worldwide, especially with the recent consideration of a third booster for this high-risk group.

No conflict of interest

POS-975

SEROLOGIC RESPONSE TO THE MRNA-1273 AND BNT162B2 COVID-19 VACCINES IN DIALYSIS PATIENTS

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Introduction: Differences in immunogenicity between mRNA COVID-19 vaccines have not been well characterized in the dialysis population. The objective of this study was to compare the SARS-CoV-2 antibody response in chronic dialysis patients following BNT162b2 and mRNA-1273 COVID-19 vaccination.

Methods: This was a prospective observational cohort study at two academic centres in Toronto, Ontario, Canada. In 239 dialysis patients receiving two doses of the BNT162b2 (Pfizer-BioNTech) or mRNA-1273 (Moderna) COVID-19 vaccine. SARS-CoV-2 IgG antibodies to the spike protein (anti-spike), receptor binding domain (anti-RBD), and nucleocapsid protein (anti-NP) were measured in participants 6-7 weeks following two dose vaccination and at follow-up at 12 weeks following two dose vaccination. Comparison was made to the median convalescent serum SARS-CoV-2 IgG antibody levels from 211 patients with known prior COVID-19 which have been used to define correlates of protection.

Results: Among 144 patients receiving BNT162b2, median age was 72 (interquartile range, 60-78), 32% were female, and 4% had prior RT-PCR confirmed COVID-19 while the 95 patients receiving mRNA-1273 had a median age of 62 (interquartile range, 55-67), 26% were female, and 5% had prior COVID-19.

At 6-7 weeks following two dose vaccination, high rates of seroconversion for anti-RBD and anti-spike were observed in both vaccine groups. In patients receiving BNT16b2 65/73 (89%) had anti-RBD seroconversion, 71/73 (97%) had anti-spike seroconversion, while among patients receiving mRNA-1273, 85/88 (97%) had anti-RBD seroconversion, and 85/88 (97%) had anti-spike seroconversion. In patients receiving BNT162b2, only 38/73 (52%) had anti-RBD reaching the median convalescent serum level in comparison to 70/88 (80%) receiving mRNA-1273. Similarly, 54/73 (74%) of patients receiving BNT16b2 and 84/88 (95%) receiving mRNA-1273 attained the convalescent serum level of anti-spike.

At 12 weeks post two dose vaccination, seropositivity was maintained in 115/134 (86%) for anti-RBD and 128/134 (96%) for anti-spike in those receiving BNT162b2. In patients receiving mRNA-1273 seropositivity was 67/72 (93%) for anti-RBD and 69/72 (96%) for anti-spike. Anti-RBD levels were significantly lower at 12 weeks post vaccination in patients receiving BNT162b2 compared to mRNA-1273 with 50/134 (37%) receiving BNT162b2 reaching convalescent serum levels in comparison to 45/72 (63%) of patients receiving mRNA-1273 ($p=0.001$). Similarly, 77/134 (57%) of patients receiving BNT162b2 reached convalescent levels of anti-spike in comparison to 68/72 (94%) receiving mRNA-1273 ($p<0.001$).

Serologic evidence of natural COVID-19 infection detected through anti-NP was similar between vaccine groups with 14/134 (10%) receiving BNT162b2 and 4/72 (6%) receiving mRNA-1273 seropositive for anti-NP at 12 weeks.