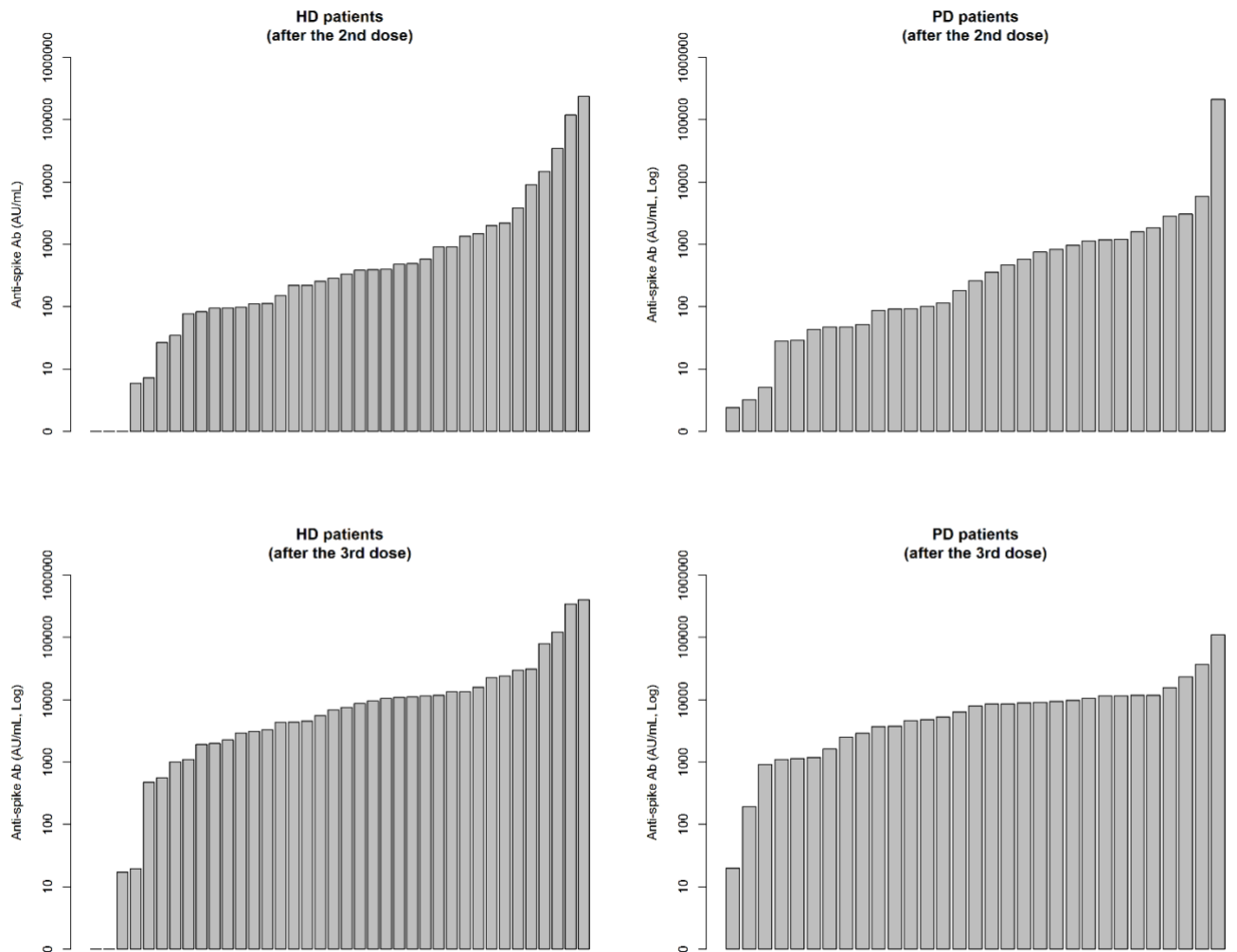


**Figure S1. Individual anti-spike Ig titer according to dialysis modality.**



**Item S1 : Questionnaire on vaccine reaction after the third vaccine dose.**

**1. After the third vaccine injection, did you feel any of these side effects?**

- Pain at injection site
- Swelling at injection site
- Redness at injection site
- Headaches
- Diarrhea
- Fatigue
- Fever
- Chills
- Muscle pain

**2. In comparison with the second injection, would you say that adverse events with the third injection were:**

- Similar
- Worse
- Better

**3. After the third injection, have you been hospitalized or did you visit Emergency Department for any reason?**

**Table S1. Non- and weak-responders after the second vaccine dose.**

Age (years)	Sex	BMI (kg/m <sup>2</sup> )	Dialysis modality	Dialysis vintage (years)	Indication of IS treatment	Immunosuppressive treatment	Interval since last IS treatment (months)	Anti-spike after the 2 <sup>nd</sup> vaccine dose (AU/ml)	Anti-spike after the 3 <sup>rd</sup> vaccine dose (AU/ml)
75	F	19.5	HD	0.1	AL amyloidosis	CYP-Velcade-Dexa	Ongoing	0	0
79	F	18.8	HD	7	Myeloma	CYP-Pomalidomide	Ongoing	0	0
83	F	16.0	HD	20	Arthrosis	Corticosteroids	Ongoing	0	19.3
66	F	20	PD	4	Psoriatic arthritis	Methotrexate	Ongoing	2.4	5306
76	M	25.9	PD	3	MPGN	Corticosteroids	9	3.2	1105
90	M	28.2	PD	3	0	0	-	5.1	191
79	F	31.3	HD	0.2	Membranous nephropathy	Rituximab	7	5.9	1006
71	M	23.7	HD	2	Myeloma	Revlimid	Ongoing	7.2	17
75	M	23.4	HD	7	ANCA vasculitis	Corticosteroids Imurel	Ongoing	26.6	13411
83	M	28.9	PD	2	0	0	-	28	1625
84	M	23.1	PD	6	0	0	-	29	11736
63	M	34.9	HD	1	0	0	-	34.7	4325
71	F	27.4	PD	1	0	0	-	47	15565
60	F	34.4	PD	1	0	0	-	47	1188
64	F	34.4	PD	0.5	0	0	-	42.9	11736

Patients with a titer of anti-spike Ig below 0.8 AU/mL were considered as non-responders. Patients with a serology titer between 0.8 AU/mL and 50 AU/mL, were considered as weak-responders. CYP: cyclophosphamide; HD: hemodialysis ; IS: immunosuppressive; MPGN: Membranoproliferative glomerulonephritis; PD: peritoneal dialysis.

**Table S2. Patients without increase in antibody titer after the third vaccine dose.**

Age (years)	Sex	Dialysis modality	Dialysis vintage (years)	BMI (kg/m <sup>2</sup> )	Comorbidity	Immunosuppressive treatment	Interval between the 2 <sup>nd</sup> and the 3 <sup>rd</sup> vaccine dose	Anti-spike Ab after the 2 <sup>nd</sup> vaccine dose (AU/ml)	Anti-spike Ab after the 3 <sup>rd</sup> vaccine dose (AU/ml)	Anti-nucleocapsid Ab
75	F	HD	0.1	19.5	AL Amyloidosis	CYP-Velcade-Dexa	3	0	0	0.1
79	F	HD	7	18.7	Myeloma	CYP-Pomalidomide	9.7	0	0	0.1
79	F	HD	21	17.6	Atherosclerosis disease	No	5	906	558	0.1
65	M	PD	3	33.7	Alport syndrom	No	8	87	19.7	0.09
51	M	HD	0.2	36.3	Hypertension	No	9.4	34433	31256	NA
56	F	PD	3	33.0	Hypertension Diabetes	No	10.9	212030	109700	53

CYP: cyclophosphamide ; HD: hemodialysis ; PD: peritoneal dialysis; BMI: Body Mass Index.

**Table S3. Characteristics of the study population, according to the antibody response after the third vaccine dose.**

	Anti-spike < 50 AU/mL n = 5	Anti-spike ≥ 50 AU/mL n = 64	p
<b>Clinical characteristics</b>			
Age, years	75.0 [71.0, 79.0]	66.0 [51.8, 76.0]	0.2
Men, n (%)	2 (40.0)	43 (67.2)	0.3
Body mass index, kg/m <sup>2</sup>	19.5 [18.7, 23.7]	27.3 [22.4, 30.7]	0.1
Diabetes, n (%)	0 ( 0.0)	22 (34.4)	0.2
History of immunosuppression*, n (%)	4 (80.0)	8 (12.5)	0.003
History of hemopathy, n (%)	3 (60.0)	3 ( 4.7)	0.004
History of immunosuppressive therapy, n (%)	4 (80.0)	5 ( 7.8)	0.001
Dialysis modality, HD	4 (80.0)	34 (53.1)	0.4
Dialysis vintage, years	3.0 [2.0, 7.0]	3.0 [1.0, 6.0]	0.9
KT/V	1.5 [1.1, 1.8]	1.6 [1.2, 1.9]	0.5
<b>Biological parameters</b>			
Lymphocytes, Giga/L	1.0 [0.6, 1.1]	1.3 [0.9, 1.6]	0.1
Neutrophilic polymorphonuclear, Giga/L	2.3 [1.1, 5.3]	3.9 [2.9, 4.9]	0.3
Gamma globulin, g/L	3.9 [3.3, 5.2]	9.6 [8.0, 13.6]	0.003
Serum albumin, g/l	34.6 [33.0, 38.7]	37.3 [34.5, 41.9]	0.3
Serum prealbumin, g/l	0.30 [0.25, 0.36]	0.34 [0.30, 0.41]	0.4
C reactive protein, mg/l	3.2 [1.3, 3.5]	2.2 [0.9, 3.7]	0.8
<b>Humoral response after the second dose</b>			
After the second vaccine dose			
Interval between the 2 <sup>nd</sup> dose - serology, d	49.0 [28.0, 56.0]	50 [35, 58]	0.6
Anti-spike after the 2 <sup>nd</sup> dose, AU/ml	0.0 [0.0, 7.2]	372 [94, 1246]	0.001
After the third vaccine dose			
Interval between the 2 <sup>nd</sup> and 3 <sup>rd</sup> dose, d	30 [28, 30]	30 [27, 36]	0.7
Anti-spike after the 3 <sup>rd</sup> dose, AU/ml	17 [0, 19]	8614 [3054, 11752]	<0.001
Ratio anti-spike after the 3 <sup>rd</sup> / 2 <sup>nd</sup> dose	1.3 [0.8, 1.8]	24.1 [4.8, 64.8]	0.07

Results are shown as median [interquartile range] for the continuous variables, or as number of patients (percentage) for the qualitative variables. Mann Whitney test and Fisher's exact test were used to compare continuous and categorical variables according to the dialysis modality.

\* History of immunosuppression means history of hemopathy and/or history of immunosuppressive therapy. AU: arbitrary unit ; HD : hemodialysis.

**Table S4. Characteristics of the study population, according to the anti-nucleocapsid serology status**

	Anti-nucleocapsid serology		p
	Negative (< 1) n=55	Positive (>1) n=4	
<b>Clinical characteristics</b>			
Age, years	69.0 [53.5, 76.0]	47.5 [42.8, 51.5]	0.04
Men, n (%)	37 (67.3)	2 ( 50.0)	0.6
Body mass index, kg/m <sup>2</sup>	26.6 [22.2, 29.1]	25.9 [23.0, 28.9]	0.9
Diabetes, n (%)	18 (32.7)	3 ( 75.0)	0.1
History of hemopathy, n (%)	5 ( 9.1)	0 ( 0.0)	1.0
History of immunosuppressive therapy, n(%)	7 (12.7)	0 ( 0.0)	1.0
Dialysis modality, HD	29 (52.7)	3 ( 75.0)	0.6
Dialysis vintage, years	3.0 [1.0, 6.0]	3.0 [3.0, 6.5]	0.5
KT/V	1.6 [1.3, 1.9]	1.5 [1.3, 1.9]	0.9
<b>Biological parameters</b>			
Lymphocytes, Giga/L	1.2 [1.0, 1.5]	1.6 [1.2, 2.0]	0.3
Neutrophilic polymorphonuclear, Giga/L	4.1 [2.9, 5.0]	2.2 [1.9, 2.5]	0.01
Gamma globulin, g/L	9.0 [7.2, 12.0]	15.1 [14.8, 16.4]	0.004
Serum albumin, g/l	37.2 [34.2, 40.2]	37.5 [33.6, 40.3]	0.8
Serum prealbumin, g/l	0.35 [0.30, 0.41]	0.34 [0.32, 0.40]	0.9
C reactive protein, mg/l	2.3 [0.9, 3.6]	1.8 [1.2, 5.9]	0.9
<b>Humoral response</b>			
After the second vaccine dose			
Anti-spike after the 2 <sup>nd</sup> dose, AU/ml	221 [64.5, 1045.5]	165565 [93014.5, 218260]	0.001
After the third vaccine dose			
Interval between the 2 <sup>nd</sup> and 3 <sup>rd</sup> dose, d	72.0 [58.0, 77.0]	66.0 [56.0, 69.3]	0.4
Anti-spike after the 3 <sup>rd</sup> dose, AU/ml	5606 [1965.5, 10509]	116110 [89721.5, 177865]	0.002
Ratio anti-spike after the 3 <sup>rd</sup> / 2 <sup>nd</sup> dose	24.4 [6.4, 59.0]	1.2 [0.9, 1.6]	0.005

Results are shown as median [interquartile range] for the continuous variables, or as number of patients (percentage) for the qualitative variables. Mann Whitney test and Fisher's exact test were used to compare continuous and categorical variables according to the dialysis modality.

\*: arbitrary unit ; HD : hemodialysis.

**Table S5. Hospitalizations or visits to Emergency department within the 30 days following the third vaccine dose.**

Age	Sex	Dialysis modality	Interval between the 3 <sup>rd</sup> dose and event (days)	Hospitalization (Y/N)	Adverse event	Outcome
77	M	HD	26	Y	Infectious osteitis	Favorable
35	F	HD	3	N	Fatigue	Favorable
71	M	PD	15	N	Chest pain	Favorable
69	F	PD	13	Y	Pulmonary Embolism	Favorable
76	M	PD	5	Y	Infectious peritonitis ( <i>S. epidermidis</i> )	Favorable
54	M	PD	7	Y	Infectious peritonitis ( <i>S. epidermidis</i> )	Favorable
33	M	PD	16	Y	Infectious peritonitis ( <i>S. mitis</i> )	Favorable
47	M	PD	18	Y	Aseptic peritonitis	Favorable

HD: hemodialysis ; PD: peritoneal dialysis