



2 **Figure S1.** Correlation between baseline and time-averaged Na gradient and  $\Delta$ SNa. Scatter plots and  
 3 linear regression curves depicting the relationship between Na gradient and  $\Delta$ SNa at (A) baseline, (B)  
 4 within the 1-year interval, (C) 2-year interval, and (D) 3-year interval.

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6 **Table S1** Information of cancer patient included in the cohort.

Number	Gender	Tumor location	Time of enrollment	Time of diagnosis and treatment	Disease progression in the study period
1	Female	Bladder	2013-11-01	2008-01	No
2	Female	Skin	2013-12-03	2011-01	No
3	Female	Endometrium	2013-12-06	2011-04	No
4	Male	Bladder	2013-12-20	2006-01	No
5	Female	Bladder	2013-12-21	2009-01	No
6	Female	Breast	2013-12-13	2009-03	No
7	Male	Bladder	2013-12-30	2013-08	No
8	Female	Ureter	2014-01-05	2013-09	No
9	Male	Multiple myeloma	2014-01-12	2013-06	No
10	Female	Multiple myeloma	2014-01-27	2008-05	No

11	Female	Breast	2014-03-14	2008-04	No
12	Male	Bladder	2014-03-21	1996-01	No
13	Female	Kidney	2014-03-22	1988-11	No

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8 **Table S2** 1-year averaged characteristics of the participants.

Characteristics	Total n = 110	1-year $\Delta$ SNa $\geq$ 0 n = 38	1-year $\Delta$ SNa < 0 n = 72	P
Age (years)	57.1 $\pm$ 12.43	57.84 $\pm$ 13.67	56.71 $\pm$ 11.80	0.651
Male, n (%)	55 (50.0)	14 (36.8)	41 (56.9)	0.071
BMI (kg/m <sup>2</sup> )	22.72 $\pm$ 3.76	22.83 $\pm$ 2.76	22.66 $\pm$ 4.21	0.826
Smoking habit, n (%)	39 (35.5)	9 (23.7)	30 (41.7)	0.096
Drinking habit, n (%)	40 (36.4)	6 (15.8)	34 (47.2)	0.002
Comorbidities, n (%)				
DM	24 (21.8)	8 (21.1)	16 (22.2)	1.000
Hypertension	108 (98.2)	36 (94.7)	72 (100.0)	0.225
CCVD	18 (16.4)	4 (10.5)	14 (19.4)	0.352
Malignant tumor	13 (11.8)	6 (15.8)	7 (9.7)	0.531
Dialysis parameters				
UF (L)	2.31 $\pm$ 0.98	2.32 $\pm$ 1.13	2.31 $\pm$ 0.91	0.965
Dry weight (kg)	62.15 $\pm$ 11.97	60.81 $\pm$ 8.69	62.79 $\pm$ 13.27	0.433
Kt/V	1.42 $\pm$ 0.25	1.41 $\pm$ 0.23	1.43 $\pm$ 0.26	0.596
Vintage (months)	72.83 $\pm$ 59.99	62.87 $\pm$ 54.51	78.08 $\pm$ 62.42	0.207
Laboratory parameters*				
Pre-HD SNa (mmol/L)	137.83 $\pm$ 2.32	136.02 $\pm$ 2.11	138.78 $\pm$ 1.80	<0.001
$\Delta$ SNa (mmol/L)	-0.65 $\pm$ 1.87	1.40 $\pm$ 1.17	-1.73 $\pm$ 1.09	<0.001
Alb (g/L)	40.19 $\pm$ 3.57	38.86 $\pm$ 4.07	40.89 $\pm$ 3.09	0.004
Hb (g/L)	112.34 $\pm$ 8.66	112.25 $\pm$ 10.13	112.39 $\pm$ 7.85	0.936
Cr (umol/L)	985.42 $\pm$ 209.34	931.26 $\pm$ 198.14	1014.01 $\pm$ 210.76	0.048
BUN (mmol/L)	27.07 $\pm$ 4.08	26.76 $\pm$ 4.80	27.24 $\pm$ 3.66	0.557
K (mmol/L)	5.13 $\pm$ 0.52	5.18 $\pm$ 0.55	5.11 $\pm$ 0.51	0.514
Ca (mmol/L)	2.27 $\pm$ 0.17	2.26 $\pm$ 0.17	2.28 $\pm$ 0.17	0.498
P (mmol/L)	1.79 $\pm$ 0.34	1.82 $\pm$ 0.39	1.77 $\pm$ 0.31	0.462
PTH (pg/mL)	478.71 $\pm$ 467.57	492.12 $\pm$ 473.17	471.64 $\pm$ 467.77	0.828
UA (umol/L)	430.77 $\pm$ 60.98	424.04 $\pm$ 69.70	434.32 $\pm$ 56.04	0.403
CRP (mg/L)	6.05 $\pm$ 11.42	6.71 $\pm$ 13.09	5.71 $\pm$ 10.51	0.664
Ferr (ng/mL)	447.93 $\pm$ 274.71	421.36 $\pm$ 281.73	461.96 $\pm$ 271.88	0.464
TG (mmol/L)	1.57 $\pm$ 0.96	1.62 $\pm$ 1.06	1.54 $\pm$ 0.90	0.689
TC (mmol/L)	4.20 $\pm$ 0.92	4.08 $\pm$ 0.79	4.26 $\pm$ 0.97	0.304
HDL-C (mmol/L)	1.11 $\pm$ 0.35	1.08 $\pm$ 0.36	1.13 $\pm$ 0.35	0.483
LDL-C (mmol/L)	2.35 $\pm$ 0.72	2.24 $\pm$ 0.71	2.40 $\pm$ 0.72	0.270

9 \* The laboratory parameters represent the 1-year averaged values.

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11 **Table S3** 2-year averaged characteristics of the participants.

Characteristics	Total n = 110	1-year $\Delta$ SNa $\geq$ 0 n = 44	1-year $\Delta$ SNa < 0 n = 66	P
Age (years)	57.1 $\pm$ 12.43	58.68 $\pm$ 13.44	56.05 $\pm$ 11.70	0.278
Male, n (%)	55 (50.0)	20 (45.5)	35 (53.0)	0.559
BMI (kg/m <sup>2</sup> )	22.72 $\pm$ 3.76	22.60 $\pm$ 2.70	22.80 $\pm$ 4.34	0.783
Smoking habit, n (%)	39 (35.5)	12 (27.3)	27 (40.9)	0.207

Drinking habit, n (%)	40 (36.4)	10 (22.7)	30 (45.5)	0.026
Comorbidities, n (%)				
DM	24 (21.8)	11 (25.0)	13 (80.3)	0.671
Hypertension	108 (98.2)	42 (95.5)	66 (100.0)	0.308
CCVD	18 (16.4)	4 (9.1)	14 (21.2)	0.155
Malignant tumor	13 (11.8)	7 (15.9)	6 (9.1)	0.433
Dialysis parameters				
UF (L)	2.31 ± 0.98	2.28 ± 1.12	2.33 ± 0.90	0.832
Dry weight (kg)	62.15 ± 11.97	61.05 ± 8.80	62.80 ± 13.52	0.471
Kt/V	1.42 ± 0.25	1.41 ± 0.22	1.43 ± 0.26	0.630
Vintage (months)	72.83 ± 59.99	62.98 ± 52.72	79.39 ± 63.93	0.161
Laboratory parameters*				
Pre-HD SNa (mmol/L)	137.68 ± 2.26	135.97 ± 2.09	138.82 ± 1.55	<0.001
ΔSNa (mmol/L)	-0.46 ± 1.79	1.28 ± 1.02	-1.63 ± 1.10	<0.001
Alb (g/L)	40.27 ± 3.45	39.22 ± 3.91	40.97 ± 2.93	0.009
Hb (g/L)	112.19 ± 8.44	112.23 ± 9.81	112.17 ± 7.46	0.968
Cr (μmol/L)	988.37 ± 210.79	928.05 ± 193.78	1028.58 ± 213.46	0.014
BUN (mmol/L)	26.69 ± 3.63	26.12 ± 4.20	27.07 ± 3.18	0.180
K (mmol/L)	5.14 ± 0.48	5.18 ± 0.45	5.12 ± 0.49	0.519
Ca (mmol/L)	2.28 ± 0.16	2.26 ± 0.17	2.29 ± 0.16	0.310
P (mmol/L)	1.77 ± 0.30	1.76 ± 0.30	1.77 ± 0.30	0.916
PTH (pg/mL)	481.01 ± 437.41	508.49 ± 428.83	462.69 ± 445.35	0.593
UA (μmol/L)	425.51 ± 57.55	416.46 ± 63.12	431.55 ± 53.15	0.179
CRP (mg/L)	6.25 ± 12.09	7.36 ± 14.06	5.51 ± 10.63	0.435
Ferr (ng/mL)	424.56 ± 228.52	418.00 ± 219.28	428.94 ± 236.04	0.807
TG (mmol/L)	1.59 ± 0.95	1.62 ± 1.04	1.56 ± 0.89	0.745
TC (mmol/L)	4.22 ± 0.93	4.12 ± 0.80	4.28 ± 1.01	0.365
HDL-C (mmol/L)	1.11 ± 0.35	1.09 ± 0.37	1.12 ± 0.34	0.715
LDL-C (mmol/L)	2.35 ± 0.71	2.25 ± 0.68	2.41 ± 0.73	0.268

12 \* The laboratory parameters represent the 2-year averaged values.

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14 **Table S4** 3-year averaged characteristics of the participants.

Characteristics	Total n = 110	1-year ΔSNa ≥ 0 n = 42	1-year ΔSNa < 0 n = 68	P
Age (years)	57.1 ± 12.43	59.00 ± 13.86	55.93 ± 11.40	0.209
Male, n (%)	55 (50.0)	23 (54.8)	32 (47.1)	0.556
BMI (kg/m <sup>2</sup> )	22.72 ± 3.76	22.16 ± 3.23	23.07 ± 4.03	0.218
Smoking habit, n (%)	39 (35.5)	14 (33.3)	25 (36.8)	0.873
Drinking habit, n (%)	40 (36.4)	10 (23.8)	30 (44.1)	0.052
Comorbidities, n (%)				
DM	24 (21.8)	11 (26.2)	13 (19.1)	0.525
Hypertension	108 (98.2)	40 (95.2)	68 (100.0)	0.279
CCVD	18 (16.4)	4 (9.5)	14 (20.6)	0.208
Malignant tumor	13 (11.8)	6 (14.3)	7 (10.3)	0.744
Dialysis parameters				
UF (L)	2.31 ± 0.98	2.31 ± 1.21	2.31 ± 0.84	0.981
Dry weight (kg)	62.15 ± 11.97	60.31 ± 9.92	63.15 ± 12.91	0.247
Kt/V	1.42 ± 0.25	1.41 ± 0.23	1.44 ± 0.26	0.581
Vintage (months)	72.83 ± 59.99	65.69 ± 59.43	77.24 ± 60.35	0.329
Laboratory parameters*				
Pre-HD SNa (mmol/L)	137.51 ± 2.23	135.70 ± 1.94	138.63 ± 1.56	<0.001

ΔSNa (mmol/L)	-0.40 ± 1.75	1.45 ± 0.84	-1.55 ± 1.04	<0.001
Alb (g/L)	40.32 ± 3.42	39.04 ± 3.89	41.11 ± 2.84	0.002
Hb (g/L)	111.55 ± 7.50	111.49 ± 9.62	111.58 ± 5.89	0.952
Cr (umol/L)	977.19 ± 208.39	916.03 ± 192.57	1014.97 ± 210.16	0.015
BUN (mmol/L)	26.34 ± 3.67	25.84 ± 3.92	26.65 ± 3.51	0.262
K (mmol/L)	5.14 ± 0.48	5.11 ± 0.44	5.16 ± 0.51	0.628
Ca (mmol/L)	2.28 ± 0.16	2.26 ± 0.17	2.29 ± 0.15	0.319
P (mmol/L)	1.75 ± 0.29	1.75 ± 0.29	1.75 ± 0.29	0.980
PTH (pg/mL)	474.79 ± 400.21	514.13 ± 384.35	450.49 ± 410.62	0.420
UA (umol/L)	423.45 ± 56.18	417.12 ± 51.71	427.37 ± 58.80	0.355
CRP (mg/L)	6.13 ± 11.43	7.64 ± 13.12	5.20 ± 10.25	0.277
Ferr (ng/mL)	411.87 ± 206.34	384.99 ± 202.13	428.47 ± 208.65	0.285
TG (mmol/L)	1.64 ± 1.04	1.56 ± 0.94	1.68 ± 1.09	0.555
TC (mmol/L)	4.23 ± 0.94	3.98 ± 0.79	4.39 ± 0.99	0.026
HDL-C (mmol/L)	1.10 ± 0.35	1.05 ± 0.36	1.14 ± 0.34	0.203
LDL-C (mmol/L)	2.34 ± 0.71	2.20 ± 0.61	2.42 ± 0.76	0.121

15 \* The laboratory parameters represent the 3-year averaged values.

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