Supplementary Table 1. All-cause mortality according to serum levels of corrected calcium, phosphorus, calcium-phosphorus product, and intact parathyroid hormone by Cox proportional hazard models

| Variable | Unadjusted HR (95% CI) | P value | Adjusted HR* (95% CI) | P value |
|----------|-------------------------|---------|-----------------------|---------|
| Corrected calcium (mg/dL) | | | | |
| < 8.0 | 0.858 (0.728–1.010) | 0.066 | 0.882 (0.703–1.106) | 0.276 |
| 8.0–8.4 | 1.027 (0.900–1.173) | 0.692 | 0.895 (0.745–1.077) | 0.241 |
| 8.4–8.8 | 1.045 (0.936–1.166) | 0.436 | 0.911 (0.785–1.058) | 0.221 |
| ≥ 8.8 | Reference | Reference | | |
| 9.2–9.6 | 1.060 (0.947–1.186) | 0.312 | 1.096 (0.943–1.274) | 0.230 |
| 9.6–10.0 | 1.137 (1.000–1.293) | 0.051 | 1.380 (1.164–1.635) | < 0.001 |
| ≥ 10.0 | 1.459 (1.296–1.643) | < 0.001 | 1.508 (1.276–1.782) | < 0.001 |
| Phosphorus (mg/dL) | | | | |
| < 3.0 | 2.030 (1.815–2.272) | < 0.001 | 1.267 (1.081–1.486) | 0.004 |
| 3.0–4.0 | 1.305 (1.183–1.439) | < 0.001 | 1.158 (1.015–1.321) | 0.029 |
| 4.0–5.0 | 0.771 (0.692–0.859) | < 0.001 | 0.945 (0.819–1.091) | 0.440 |
| 5.0–6.0 | 0.735 (0.645–0.838) | < 0.001 | 1.121 (0.942–1.334) | 0.199 |
| ≥ 7.0 | 0.535 (0.457–0.627) | < 0.001 | 0.923 (0.738–1.155) | 0.486 |
| Calcium-phosphorus product (mg²/dL²) | | | | |
| < 30 | 1.661 (1.475–1.870) | < 0.001 | 1.090 (0.928–1.282) | 0.294 |
| 30–35 | 1.185 (1.036–1.355) | 0.013 | 0.872 (0.728–1.044) | 0.136 |
| 35–40 | 1.061 (0.927–1.215) | 0.391 | 0.909 (0.760–1.088) | 0.298 |
| 40–45 | Reference | Reference | | |
| 45–50 | 0.882 (0.760–1.022) | 0.095 | 0.829 (0.680–1.011) | 0.063 |
| 50–55 | 0.844 (0.715–0.996) | 0.045 | 0.958 (0.772–1.189) | 0.696 |
| 55–60 | 0.852 (0.710–1.023) | 0.086 | 1.091 (0.860–1.384) | 0.473 |
| ≥ 60 | 0.699 (0.599–0.815) | < 0.001 | 1.014 (0.825–1.246) | 0.897 |
| Intact parathyroid hormone (pg/mL) | | | | |
| < 50 | 1.414 (1.288–1.552) | < 0.001 | 1.237 (1.088–1.406) | 0.001 |
| 50–150 | Reference | Reference | | |
| 150–300 | 0.849 (0.775–0.930) | < 0.001 | 1.088 (0.960–1.233) | 0.186 |
| 300–600 | 0.733 (0.653–0.824) | < 0.001 | 1.214 (1.032–1.428) | 0.019 |
| ≥ 600 | 0.665 (0.548–0.808) | < 0.001 | 1.356 (1.035–1.778) | 0.027 |

CI, confidence interval; HR, hazard ratio.
*Adjusted for age, sex, dialysis vintage, etiology of renal failure, history of cardiovascular disease, body mass index, hemoglobin, albumin, single-pool Kt/V, corrected calcium, phosphorus, and intact parathyroid hormone.
| Variable                                | Albumin < 3.8 g/dL |          | Albumin ≥ 3.8 g/dL |          |
|-----------------------------------------|--------------------|----------|--------------------|----------|
|                                         | Adjusted HR* (95% CI) | P value | Adjusted HR* (95% CI) | P value |
| Age (per 1 yr)                          | 1.046 (1.040–1.053) | < 0.001 | 1.057 (1.049–1.064) | < 0.001 |
| Sex (male)                              | 1.150 (0.998–1.326) | 0.053   | 1.195 (1.017–1.405) | 0.030   |
| Dialysis vintage (per 1 mo)             | 1.002 (1.001–1.003) | < 0.001 | 1.001 (1.000–1.003) | 0.047   |
| Etiology of renal failure               |                    |         |                    |         |
| Diabetic nephropathy                    | Reference          |         | Reference          |         |
| Hypertensive nephropathy                | 0.784 (0.661–0.929) | 0.005   | 0.545 (0.451–0.660) | < 0.001 |
| Glomerulonephritis                      | 0.606 (0.450–0.816) | 0.001   | 0.420 (0.313–0.656) | < 0.001 |
| Others                                  | 0.911 (0.770–1.079) | 0.280   | 0.544 (0.447–0.664) | < 0.001 |
| History of CVD†                         | 1.352 (1.171–1.561) | < 0.001 | 1.400 (1.189–1.648) | < 0.001 |
| Body mass index (per 1 kg/m²)           | 0.922 (0.901–0.942) | < 0.001 | 0.935 (0.912–0.958) | < 0.001 |
| Hemoglobin (per 1 g/dL)                 | 0.902 (0.853–0.954) | < 0.001 | 0.907 (0.846–0.972) | 0.006   |
| Albumin (per 1 g/dL)                    | 0.417 (0.359–0.486) | < 0.001 | 0.660 (0.483–0.901) | 0.009   |
| Single-pool Kt/V (per 1)                | 0.599 (0.476–0.753) | < 0.001 | 0.673 (0.504–0.899) | 0.007   |
| Corrected calcium (mg/dL)               |                    |         |                    |         |
| Q1 ≤ 8.40                               | 0.810 (0.646–1.017) | 0.069   | 0.873 (0.693–1.101) | 0.251   |
| Q2 8.41–8.80                            | 0.919 (0.747–1.129) | 0.420   | 0.848 (0.676–1.064) | 0.155   |
| Q3 8.81–9.14                            | Reference          |         | Reference          |         |
| Q4 9.15–9.60                            | 1.033 (0.841–1.269) | 0.759   | 1.023 (0.822–1.274) | 0.838   |
| Q5 ≥ 9.61                               | 1.503 (1.231–1.835) | < 0.001 | 1.176 (0.939–1.474) | 0.158   |
| Phosphorus (mg/dL)                      |                    |         |                    |         |
| Q1 ≤ 3.59                               | 1.301 (1.081–1.567) | 0.005   | 1.152 (0.922–1.439) | 0.212   |
| Q2 3.60–4.39                            | 1.171 (0.957–1.432) | 0.125   | 0.965 (0.778–1.196) | 0.744   |
| Q3 4.40–5.10                            | Reference          |         | Reference          |         |
| Q4 5.11–6.10                            | 1.036 (0.827–1.297) | 0.761   | 0.988 (0.797–1.224) | 0.911   |
| Q5 ≥ 6.11                               | 1.063 (0.815–1.387) | 0.650   | 1.032 (0.823–1.295) | 0.782   |
| Intact parathyroid hormone (pg/mL)      |                    |         |                    |         |
| Q1 ≤ 59.6                               | 1.155 (0.957–1.393) | 0.134   | 1.211 (0.970–1.513) | 0.091   |
| Q2 59.7–119.8                           | 0.883 (0.720–1.083) | 0.232   | 1.094 (0.878–1.364) | 0.421   |
| Q3 119.9–189.7                          | Reference          |         | Reference          |         |
| Q4 189.8–310.9                          | 0.970 (0.778–1.209) | 0.786   | 1.109 (0.878–1.401) | 0.387   |
| Q5 ≥ 311.0                              | 1.177 (0.931–1.488) | 0.172   | 1.350 (1.058–1.723) | 0.016   |

BP, blood pressure; CI, confidence interval; CVD, cardiovascular disease; HR, hazard ratio; Q, quintile.

+ Adjusted for age, sex, dialysis vintage, etiology of renal failure, history of cardiovascular diseases, body mass index, hemoglobin, albumin, single-pool Kt/V, corrected calcium, phosphorus, and intact parathyroid hormone.

†CVD: composite of coronary artery disease, heart failure, cerebrovascular disease, peripheral artery disease/diabetic foot.