

Supplementary Table 1. Patient characteristics of the subcohort by the KDOQI PTH category

Characteristic	<150 (n = 444)	150-300 (n = 1,508)	301-800 (n = 1,156)	>800 (n = 168)	P*
Age (yr)	63.0 ± 12.8	62.6 ± 12.7	60.9 ± 12.6	60.3 ± 11.7	<0.001
Gender female (%)	41.2	36.1	39.4	46.4	0.020
Cause of ESRD (%)					
Glomerulonephritis	43.0	41.2	49.1	57.7	<0.001
Diabetic nephropathy	27.5	28.6	18.9	11.3	
Pyelonephritis	1.4	1.9	1.7	2.4	
Polycystic kidney disease	5.2	4.0	4.2	6.5	
Nephrosclerosis	6.3	6.2	6.4	4.2	
Other	5.9	8.3	9.7	10.7	
Unknown	10.8	9.6	9.9	7.1	
Dialysis vintage (mo)	110 ± 102	110 ± 96	133 ± 96	172 ± 112	<0.001
History of CVD (%)	45.1	44.2	41.2	41.7	0.35
BMI (kg/m ²)	21.1 ± 3.5	21.4 ± 3.5	21.4 ± 3.7	21.0 ± 3.5	0.17
Kt/V	1.4 ± 0.3	1.4 ± 0.3	1.4 ± 0.3	1.5 ± 0.3	0.030
Laboratory data					
Calcium (mg/dL)	9.7 ± 0.9	9.3 ± 0.9	9.6 ± 2.9	9.7 ± 0.9	<0.001
Phosphorus (mg/dL)	5.1 ± 1.3	5.3 ± 1.3	5.8 ± 1.4	6.3 ± 1.6	<0.001
Intact PTH (pg/mL)	93 ± 38	228 ± 39	450 ± 127	1177 ± 663	<0.001
ALP (U/L)	252 ± 141	263 ± 133	302 ± 135	474 ± 384	<0.001
BAP (U/L)	24.7 ± 14.7	33.0 ± 29.5	46.4 ± 36.6	88.6 ± 98.1	<0.001
Creatinine (mg/dL)	10.8 ± 2.9	11.1 ± 2.9	11.4 ± 2.8	11.7 ± 2.8	<0.001
Hemoglobin (g/dL)	10.9 ± 5.9	10.5 ± 1.3	10.5 ± 1.2	10.4 ± 1.2	0.035
Albumin (g/dL)	3.7 ± 0.4	3.7 ± 0.4	3.8 ± 0.4	3.8 ± 0.4	0.038
Total cholesterol (mg/dL)	154 ± 35	155 ± 37	154 ± 43	154 ± 34	1.00
C-reactive protein (mg/dL)	0.5 ± 1.3	0.5 ± 1.3	0.5 ± 1.7	0.4 ± 1.7	0.97
IV vitamin D use (%)	74.1	37.3	51.6	63.1	<0.001
Calcitriol (%)	27.1	24.6	20.5	27.4	0.090
Maxacalcitol (%)	73.3	76.2	79.7	72.6	0.100
IV vitamin D dose (µg/wk)**	1.87 ± 1.15	2.12 ± 1.43	2.22 ± 1.71	2.67 ± 2.08	<0.001
Oral vitamin D use (%)	28.4	38.2	25.1	6.0	<0.001
Falecalcitriol (%)	54.8	17.4	17.9	10.0	<0.001
Calcitriol (%)	19.0	23.6	26.6	30.0	0.40
Alfacalcidol (%)	26.2	59.5	55.9	60.0	<0.001
Phosphate binder use (%)	87.6	84.2	85.9	84.5	0.27
Calcium carbonate (%)	74.5	70.2	62.1	48.2	<0.001
Sevelamer hydrochloride (%)	34.7	37.1	46.7	58.3	<0.001
Dialysate calcium (mEq/L)	2.7 ± 0.2	2.8 ± 0.2	2.8 ± 0.3	2.7 ± 0.3	0.023
2.5 mEq/L (%)	49.2	44.9	41.8	53.0	0.037
3.0 mEq/L (%)	45.4	47.2	48.7	40.5	
Other (%)	5.4	7.8	9.5	6.5	
History of PTx (%)	5.3	4.9	7.2	14.1	<0.001
History of PEIT (%)	1.0	0.7	2.5	1.2	0.001
History of PDIT (%)	0.7	0.7	1.5	2.5	0.074

Plus-minus values are means ± SD.

*P-value refers to overall ANOVA or chi-square analysis.

**Vitamin D doses were calcitriol dose equivalents. 1.5 µg of calcitriol = 10 µg of maxacalcitol.

ALP, alkaline phosphatase; BAP, bone-specific alkaline phosphatase; BMI, body mass index; CVD, cardiovascular disease; ESRD, end-stage renal disease; IV, intravenous; KDOQI, Kidney Disease Outcomes Quality Initiative; PDIT, percutaneous vitamin D injection therapy; PEIT, percutaneous ethanol injection therapy; PTH, parathyroid hormone; PTx, parathyroidectomy.

Supplementary Table 2. Patient characteristics of the subcohort by the KDIGO PTH category

Characteristic	<130 (n = 352)	130-600 (n = 2,583)	601-800 (n = 173)	>800 (n = 168)	P*
Age (yr)	63.2 ± 12.9	62.1 ± 12.8	58.4 ± 11.1	60.3 ± 11.7	<0.001
Gender female (%)	41.8	37.8	34.7	46.4	0.053
Cause of ESRD (%)					
Glomerulonephritis	41.5	43.7	60.7	57.7	<0.001
Diabetic nephropathy	30.1	25.1	10.4	11.3	
Pyelonephritis	0.9	1.8	2.9	2.4	
Polycystic kidney disease	5.4	4.0	5.2	6.5	
Nephrosclerosis	6.0	6.5	4.0	4.2	
Other	6.0	8.8	8.1	10.7	
Unknown	10.2	9.9	8.7	7.1	
Dialysis vintage (mo)	110 ± 106	117 ± 95	163 ± 96	172 ± 112	<0.001
History of CVD (%)	43.8	43.7	34.1	41.7	0.097
BMI (kg/m ²)	21.1 ± 3.7	21.4 ± 3.6	21.3 ± 3.2	21.0 ± 3.5	0.28
Kt/V	1.4 ± 0.3	1.4 ± 0.3	1.4 ± 0.3	1.5 ± 0.3	0.14
Laboratory data					
Calcium (mg/dL)	9.8 ± 0.9	9.4 ± 2.0	9.8 ± 0.7	9.7 ± 0.9	<0.001
Phosphorus (mg/dL)	5.1 ± 1.3	5.5 ± 1.4	6.2 ± 1.4	6.3 ± 1.6	<0.001
Intact PTH (pg/mL)	81 ± 33	293 ± 108	691 ± 56	1177 ± 663	<0.001
ALP (U/L)	258 ± 146	274 ± 133	333 ± 155	474 ± 384	<0.001
BAP (U/L)	25.6 ± 15.5	37.3 ± 33.3	50.5 ± 27.6	88.6 ± 98.1	<0.001
Creatinine (mg/dL)	10.7 ± 3.0	11.2 ± 2.9	12.2 ± 2.6	11.7 ± 2.8	<0.001
Hemoglobin (g/dL)	10.5 ± 1.2	10.6 ± 2.7	10.5 ± 1.2	10.4 ± 1.2	0.76
Albumin (g/dL)	3.7 ± 0.4	3.8 ± 0.4	3.8 ± 0.3	3.8 ± 0.4	0.055
Total cholesterol (mg/dL)	156 ± 35	155 ± 40	149 ± 31	154 ± 34	0.32
C-reactive protein (mg/dL)	0.5 ± 1.3	0.5 ± 1.5	0.5 ± 1.4	0.4 ± 1.7	0.99
IV vitamin D use (%)	73.0	42.8	71.7	63.1	<0.001
Calcitriol (%)	27.6	22.9	20.2	27.4	0.24
Maxacalcitol (%)	72.8	77.5	80.6	72.6	0.20
IV vitamin D dose (µg/wk)**	1.92 ± 1.19	2.10 ± 1.48	2.57 ± 2.03	2.67 ± 2.08	<0.001
Oral vitamin D use (%)	29.0	33.5	13.9	6.0	<0.001
Falecalcitriol (%)	54.9	18.6	16.7	10.0	<0.001
Calcitriol (%)	19.6	24.1	33.3	30.0	0.48
Alfacalcidol (%)	25.5	57.7	50.0	60.0	<0.001
Phosphate binder use (%)	86.6	84.8	89.6	84.5	0.31
Calcium carbonate (%)	72.7	67.9	57.2	48.2	<0.001
Sevelamer hydrochloride (%)	33.5	40.0	60.1	58.3	<0.001
Dialysate calcium (mEq/L)	2.7 ± 0.2	2.8 ± 0.2	2.8 ± 0.3	2.7 ± 0.3	0.088
2.5 mEq/L (%)	48.1	44.2	39.9	53.0	0.095
3.0 mEq/L (%)	45.9	47.5	50.3	40.5	
Other (%)	6.0	8.3	9.8	6.5	
History of PTx (%)	5.7	5.6	9.5	14.1	<0.001
History of PEIT (%)	1.2	1.3	3.1	1.2	0.33
History of PDIT (%)	0.9	0.9	2.5	2.5	0.089

Plus-minus values are means ± SD.

*P-value refers to overall ANOVA or chi-square analysis.

**Vitamin D doses were calcitriol dose equivalents. 1.5 µg of calcitriol = 10 µg of maxacalcitol.

ALP, alkaline phosphatase; BAP, bone-specific alkaline phosphatase; BMI, body mass index; CVD, cardiovascular disease; ESRD, end-stage renal disease; IV, intravenous; KDIGO, Kidney Disease: Improving Global Outcomes; PDIT, percutaneous vitamin D injection therapy; PEIT, percutaneous ethanol injection therapy; PTH, parathyroid hormone; PTx, parathyroidectomy.