**SUPPLEMENTARY MATERIAL**

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| Supplementary Table 1 Demographic and key biochemical variables for study participants and kidney ransplant recipients not included during the study period |
|  | Study participants (*n* = 141) | Not included (*n* = 780) | *p*  |
| Age, years | 57.26 ± 11.35 | 54.77 ± 13.01 | 0.03 |
| Gender, n (%) |  |  |  |
|  Male | 100 (70.9) | 502 (64.4) |  |
|  Female | 41 (29.1) | 278 (35.6) | 0.13 |
| eGFR (CKD-EPI), ml/min/m² | 49.37 ± 15.71 | 49.80 ± 18.31 | 0.80 |
| Creatinine, mg/dL | 1.57 ± 0.50 | 1.86 ± 6.30 | 0.58 |
| Biointact PTH, ng/dL | 56.2 [39.0; 109.4] | 71.7 [44.3; 104.0] | 0.12 |
| Calcium, mg/dL | 9.74 ± 0.88 | 9.65 ± 1.00 | 0.32 |
| Phosphate, mg/dL | 3.09 ± 0.71 | 3.05 ± 0.70 | 0.54 |
| Calcidiol, ng/mL | 35.56 ± 13.95 | 32.35 ± 13.87 | 0.02 |
| Data are meanSD, median[IQR], or n (%) with *p* by Student's *t* test, Wilcoxon ranksum test, or Pearsons X² test, respectively |
| Abbr.: PTH=parathyroid hormone, eGFR=estimated glomerular filtration rate |

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| Supplementary Table 2 Correlation between biochemistry of mineral metabolism and bone histomorphometry at 12 months post kidney transplantation |
|  | PTH | Calcium | Phosphate | Calcidiol | Total CO2 | Sclerostin | OPG | sRANKL |
| *n* = 114 | *Dynamic parameters* |
| BFR/TAr, μm²/mm²/day | 0.34, p=0.01 | 0.21 | -0.13 | -0.09 | -0.10 | -0.29, p=0.07 | -0.07 | 0.24 |
| MPm/BPm, % | 0.27, p=0.05 | 0.09 | -0.04 | -0.13 | 0.16, p=0.10 | -0.30, p=0.02 | -0.12 | -0.18 |
| Omt, days | 0.00 | 0.07 | -0.24, p=0.01 | -0.11 | -0.02 | -0.06 | -0.16 | -0.21 |
| Mlt, days | 0.20 | 0.08 | -0.33, p=0.03 | -0.06 | -0.15 | 0.02 | 0.00 | 0.01 |
| *n* = 143 | *Static parameters* |
| ObPm/BPm, % | 0.53, p<0.001 | 0.10 | -0.11 | -0.04 | -0.18 | -0.25 | 0.01 | -0.02 |
| OcPm/BPm, % | 0.34, p=0.003 | 0.02 | -0.16 | 0.02 | -0.16 | -0.20 | -0.02 | -0.04 |
| EPm/BPm, % | 0.16 | 0.12 | -0.16 | 0.03 | 0.14 | -0.21 | -0.03 | -0.09 |
| OAr/BAr, % | 0.49, p<0.001 | 0.17 | -0.30, p=0.02 | -0.15 | -0.23 | -0.31, p=0.01 | -0.04 | 0.10 |
| OPm/BPm, % | 0.57, p<0.001 | 0.17 | -0.31, p=0.01 | -0.17 | -0.28, p = 0.06 | -0.33, p=0.004 | -0.06 | 0.12 |
| OWi, μm | 0.13 | 0.10 | -0.27, p=0.08 | -0.16 | -0.06 | -0.20 | -0.08 | 0.16 |
| BAr/TAr, % | 0.05 | -0.03 | -0.09 | -0.13 | -0.10 | -0.01 | -0.17 | 0.31, p=0.02 |
| Spearman's *rho* with Bonferroni-adjusted *p* values given if <0.10 |
| Abbr.: PTH=biointact parathyroid hormone, OPG=osteoprotegerin, sRANKL=receptor activator of nuclear factor-κB ligand, BFR=bone formation rate, Mlt=mineralization lag time, ObPm=osteoblast perimeter, OcPm=osteoclast perimeter, EPm=eroded perimeter, OAr=osteoid area, OPm=osteoid perimeter, OWi=osteoid width, BAr=bone area, BPm=bone perimeter, TAr=total tissue area |

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| Supplementary Table 3 Associations between key bone histomorphometric variables and patients characteristics  |
|  | Ln BFR | Ln Mlt | BAr/TAr  |
|  | *β* | *p* | *β* | *p* | *β* | *p* |
| Age, years | -0.016 | 0.20 | -0.007 | 0.43 | -0.134 | 0.003 |
| Gender, male | 0.104 | 0.75 | -0.260 | 0.27 | 1.573 | 0.17 |
| Body mass index, kg/m² | -0.008 | 0.79 | 0.053 | 0.02 | 0.298 | 0.008 |
| Dialysis vintage, yrs | 0.003 | 0.98 | -0.003 | 0.62 | -0.047 | 0.13 |
| Diabetes mellitus, yes | -0.123 | 0.70 | -0.040 | 0.86 | 0.052 | 0.96 |
| Parathyroidectomy, yes | -1.097 | 0.03 | -0.412 | 0.31 | 0.094 | 0.96 |
| eGFR, ml/min/1.73m² | 0.007 | 0.50 | -0.008 | 0.26 | 0.029 | 0.38 |
| Cumulative steroid dose, g | -0.250 | 0.008 | 0.185 | 0.006 | -0.111 | 0.76 |
| PTH, ρg/mL | 0.721 | <0.001 | 0.306 | 0.03 | 0.001 | 0.92 |
| 25 OH vit D, ng/mL | -0.000 | 0.98 | -0.003 | 0.72 | -0.082 | 0.03 |
| Phosphate, mg/dL | -0.389 | 0.07 | -0.489 | 0.001 | -0.408 | 0.63 |
| Total calcium, mg/dL | 0.606 | 0.02 | -0.130 | 0.48 | -0.636 | 0.41 |
| Total CO2, mmol/L | -0.033 | 0.53 | -0.053 | 0.16 | -0.146 | 0.42 |
| 24hr U-Calcium, mg | 0.002 | 0.27 | 0.001 | 0.45 | -0.309 | 0.42 |
| 24hr U-Phosphate, g | -1.104 | 0.02 | 0.584 | 0.09 | 0.035 | 0.46 |
| Sclerostin, ρg/mL | -0.845 | 0.008 | 0.078 | 0.73 | 1.181 | 0.52 |
| OPG/sRANKL ratio | -0.003 | 0.09 | -0.001 | 0.58 | -0.014 | 0.03 |
| Data are *β* coefficients by univariate linear regression, with corresponding *p* values |
| Abbr.: Bar/TAr=Bone per total tissue area, BFR=Bone formation rate, eGFR=estimated glomerular filtration rate, Mlt=mineralization lag time, OPG=osteoprotegerin, PTH=Biointact parathyroid hormone, sRANKL=soluble receptor activator of nuclear factor-κB ligand  |