Supplemental Table 1. Pearson’s correlation r between continuous serum electrolyte levels.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Serum electrolyte (mmol/L) | Sodium | Potassium | Chloride | Total calcium | Phosphate | Magnesium |
| Sodium  | 1 | -0.010 | **0.337**\*\* | **-0.055**\*\* | **0.029**\*\* | **0.023**\* |
| Potassium  |  | 1 | -0.005 | **0.128**\*\* | **0.099**\*\* | **0.079**\*\* |
| Chloride  |  |  | 1 | **0.289**\*\* | **-0.075**\*\* | **0.209**\*\* |
| Total calcium |  |  |  | 1 | **0.116**\*\* | **0.261**\*\* |
| Phosphate  |  |  |  |  | 1 | **0.052**\*\* |
| Magnesium  |  |  |  |  |  | 1 |

\*\* Correlation is significant at the 0.01 level (2-tailed).

\* Correlation is significant at the 0.05 level (2-tailed).

Supplemental Table 2. Generalized linear regression of serum electrolyte levels to diastolic blood pressure corrected for anti-hypertension medication.

|  |  |
| --- | --- |
|  | Serum electrolytes (beta coefficients, 95% confidence interval) |
|  | Sodium | Potassium | Chloride | Calcium | Phosphate | Magnesium |
| Calcium channel blocker (n=301) |  |  |  |  |  |
|  | yes | β | -0.26 (-0.50,-0.02) | -0.11 (-0.36,0.13) | 0.00 (-0.25,0.25) | -0.30 (-0.58,-0.03) | -0.28 (-0.60,0.03) | 0.23 (-0.03,0.50) |
|  |  | p-value | 0.037 | 0.347 | 0.972 | 0.032 | 0.077 | 0.078 |
|  | no | β | 0.04 (0.01,0.08) | -0.05 (-0.08,-0.01) | 0.00 (-0.04,0.03) | 0.10 (0.07,0.14) | -0.06 (-0.10,-0.03) | -0.03 (-0.07,0.00) |
|  |  | p-value | 0.013 | 0.005 | 0.824 | 0.000 | 0.000 | 0.053 |
|  | Comparison of β | 0.275 | 0.849 | 0.969 | 0.129 | 0.958 | 0.603 |
| Angiotensin converting enzyme inhibitor or angiotensin II receptor blocker (n=267) |  |  |
|  | yes | β | 0.27 (-0.04,0.57) | -0.44 (-0.71,-0.16) | 0.03 (-0.31,0.36) | 0.10 (-0.18,0.38) | -0.10 (-0.38,0.17) | -0.25 (-0.54,0.04) |
|  |  | p-value | 0.085 | 0.002 | 0.871 | 0.475 | 0.453 | 0.085 |
|  | no | β | 0.04 (0.00,0.07) | -0.04 (-0.07,-0.01) | 0.00 (-0.03,0.03) | 0.10 (0.06,0.13) | -0.07 (-0.10,-0.03) | -0.03 (-0.06,0.00) |
|  |  | p-value | 0.035 | 0.020 | 0.994 | 0.000 | 0.000 | 0.069 |
|  | Comparison of β | 0.161 | **0.001** | 0.631 | 0.297 | 0.513 | 0.264 |
| Herbal medication (n=98) |  |  |  |  |  |
|  | yes | β | -0.20 (-0.69,0.29) | -0.23 (-0.68,0.21) | 0.01 (-0.40,0.43) | 0.32 (-0.19,0.83) | -0.16 (-0.76,0.44) | 0.11 (-0.37,0.59) |
|  |  | p-value | 0.410 | 0.294 | 0.948 | 0.205 | 0.588 | 0.642 |
|  | no | β | 0.04 (0.01,0.08) | -0.04 (-0.08,-0.01) | 0.00 (-0.04,0.03) | 0.10 (0.06,0.13) | -0.06 (-0.10,-0.03) | -0.03 (-0.07,0.00) |
|  |  | p-value | 0.013 | 0.007 | 0.818 | 0.000 | 0.000 | 0.045 |
|  | Comparison of β | **0.049** | 0.428 | 0.717 | 0.870 | 0.682 | 0.355 |
| Unspecified anti-hypertension medication (n=62) |  |  |  |  |
|  | yes | β | -0.02 (-0.74,0.70) | 0.25 (-0.37,0.88) | 0.48 (-0.30,1.26) | -0.10 (-0.98,0.78) | -0.03 (-0.83,0.77) | -0.08 (-0.77,0.61) |
|  |  | p-value | 0.948 | 0.379 | 0.192 | 0.796 | 0.939 | 0.793 |
|  | no | β | 0.04 (0.01,0.07) | -0.05 (-0.08,-0.02) | 0.00 (-0.04,0.03) | 0.10 (0.06,0.13) | -0.06 (-0.10,-0.03) | -0.03 (-0.06,0.00) |
|  |  | p-value | 0.019 | 0.004 | 0.772 | 0.000 | 0.000 | 0.081 |
|  | Comparison of β | 0.997 | 0.638 | 0.065 | 0.396 | 0.712 | 0.568 |

Adjusted factors in model: The other five serum electrolytes, the other four anti-hypertension medication, age, gender, BMI, EGFR, serum uric acid, glucose, HbA1c, triglyceride, LDL, HDL, and total cholesterol.

Supplemental Table 3. Generalized linear regression of serum electrolyte levels to systolic blood pressure corrected for anti-hypertension medication.

|  |  |
| --- | --- |
|  | Serum electrolytes (beta coefficients, 95% confidence interval) |
|  | Sodium | Potassium | Chloride | Calcium | Phosphate | Magnesium |
| Calcium channel blocker (n=301) |  |  |  |  |  |
|  | yes | β | -0.12 (-0.34,0.11) | 0.07 (-0.15,0.30) | -0.07 (-0.31,0.16) | -0.24 (-0.50,0.02) | -0.46 (-0.75,-0.17) | 0.33 (0.08,0.57) |
|  |  | p-value | 0.312 | 0.532 | 0.524 | 0.069 | 0.003 | 0.010 |
|  | no | β | 0.04 (0.00,0.07) | -0.02 (-0.05,0.01) | -0.01 (-0.04,0.02) | 0.08 (0.05,0.11) | -0.10 (-0.13,-0.07) | -0.04 (-0.07,0.00) |
|  |  | p-value | 0.028 | 0.126 | 0.527 | 0.000 | 0.000 | 0.024 |
|  | Comparison of β | 0.172 | 0.381 | 0.816 | 0.384 | 0.617 | **0.046** |
| Angiotensin converting enzyme inhibitor or angiotensin II receptor blocker (n=267) |  |  |  |
|  | yes | β | 0.20 (-0.06,0.47) | -0.30 (-0.54,-0.06) | 0.10 (-0.20,0.39) | 0.23 (-0.02,0.48) | -0.07 (-0.32,0.17) | -0.08 (-0.33,0.18) |
|  |  | p-value | 0.133 | 0.015 | 0.513 | 0.071 | 0.545 | 0.536 |
|  | no | β | 0.03 (0.00,0.06) | -0.01 (-0.05,0.02) | -0.01 (-0.04,0.02) | 0.08 (0.05,0.11) | -0.11 (-0.14,-0.08) | -0.03 (-0.06,0.00) |
|  |  | p-value | 0.053 | 0.344 | 0.551 | 0.000 | 0.000 | 0.039 |
|  | Comparison of β | 0.367 | **<0.001** | 0.846 | 0.680 | 0.201 | 0.373 |
| Herbal medication (n=98) |  |  |  |  |  |
|  | yes | β | -0.15 (-0.57,0.27) | -0.17 (-0.55,0.22) | -0.10 (-0.45,0.26) | 0.11 (-0.33,0.55) | 0.05 (-0.47,0.56) | -0.19 (-0.61,0.22) |
|  |  | p-value | 0.466 | 0.382 | 0.587 | 0.625 | 0.855 | 0.345 |
|  | no | β | 0.04 (0.00,0.07) | -0.02 (-0.05,0.01) | -0.01 (-0.04,0.02) | 0.08 (0.05,0.11) | -0.11 (-0.14,-0.07) | -0.03 (-0.06,0.00) |
|  |  | p-value | 0.025 | 0.157 | 0.646 | 0.000 | 0.000 | 0.033 |
|  | Comparison of β | **0.006** | 0.964 | **0.048** | 0.335 | 0.080 | 0.738 |
| Unspecified anti-hypertension medication (n=62) |  |  |  |  |
|  | yes | β | 0.05 (-0.79,0.89) | 0.28 (-0.45,1.01) | 0.24 (-0.67,1.15) | 0.33 (-0.70,1.35) | 0.21 (-0.72,1.15) | -0.16 (-0.97,0.65) |
|  |  | p-value | 0.903 | 0.405 | 0.564 | 0.485 | 0.615 | 0.654 |
|  | no | β | 0.03 (0.00,0.07) | -0.02 (-0.05,0.01) | -0.01 (-0.04,0.02) | 0.08 (0.05,0.11) | -0.10 (-0.14,-0.07) | -0.03 (-0.06,0.00) |
|  |  | p-value | 0.036 | 0.138 | 0.489 | 0.000 | 0.000 | 0.050 |
|  | Comparison of β | 0.946 | 0.956 | 0.070 | 0.298 | 0.675 | 0.942 |

Adjusted factors in model: The other five serum electrolytes, the other four anti-hypertension medication, age, gender, BMI, EGFR, serum uric acid, glucose, HbA1c, triglyceride, LDL, HDL, and total cholesterol.