Supplementary Table 1 Correlation coefficients and their paired-comparisons among software for Sct

|  |  |  |  |
| --- | --- | --- | --- |
| 　 | Sct | 　 | Paired-comparisons (Z-score) |
| Parameters | VSSLV | VISLV | VISLA | 　 | VSSLV - VISLV | VSSLV - VISLA | VISLV - VISLA |
| Systolic pressure(mmHg) | -0.078 | -0.004 | 0.011 | 　 | 0.58 | 0.70 | 0.12 |
| Diastolic pressure(mmHg) | -0.218 | -0.144 | -0.146 | 　 | 0.61 | 0.59 | -0.01 |
| LVDD(mm) | 0.116 | 0.184 | 0.132 | 　 | 0.53 | 0.12 | -0.42 |
| LVSD(mm) | 0.036 | 0.169 | 0.114 | 　 | 1.03 | 0.61 | -0.44 |
| E(cm/s) | 0.060 | -0.053 | -0.040 | 　 | -0.88 | -0.78 | 0.10 |
| A(cm/s) | -0.081 | -0.118 | -0.097 | 　 | -0.28 | -0.12 | 0.16 |
| E/A | 0.197 | 0.206 | 0.185 | 　 | 0.05 | -0.11 | -0.18 |
| E/e’ | -0.057 | -0.056 | -0.032 | 　 | 0.01 | 0.20 | 0.19 |
| LVEF(%) | 0.087 | -0.075 | -0.058 | 　 | -1.27 | -1.14 | 0.14 |
| LVMI(g/m2) | 0.057 | 0.139 | 0.104 | 　 | 0.64 | 0.36 | -0.29 |
| LAD(mm) | 0.181 | 0.265\* | 0.232 | 　 | 0.64 | 0.38 | -0.31 |
| LAVmax(ml) | 0.300\* | 0.297\* | 0.248\* | 　 | -0.10 | -0.48 | -0.45 |
| LAVmin(ml) | 0.480\*\* | 0.481\*\* | 0.440\*\* | 　 | -0.33 | -0.64 | -0.66 |
| LAVpreA (ml) | 0.365\*\* | 0.373\*\* | 0.339\*\* | 　 | -0.07 | -0.34 | -0.42 |
| Active LA emptying fraction (%) | -0.331\*\* | -0.338\*\* | -0.269\* | 　 | 0.04 | 0.59 | 0.65 |
| Passive LA emptying fraction (%) | -0.231 | -0.301\* | -0.291\* | 　 | -0.51 | -0.44 | 0.15 |
| LV emptying fraction (%) | -0.459\*\* | -0.497\*\* | -0.447\*\* | 　 | -0.01 | 0.38 | 0.77 |
| LA expansion index(%) | -0.361\*\* | -0.425\*\* | -0.369\*\* | 　 | -0.37 | 0.07 | 0.66 |
| LAVI(ml/m2) | 0.330\*\* | 0.301\* | 0.243 | 　 | -0.33 | -0.78 | -0.53 |
| Cardiac risk factors | 0.084 | 0.263\* | 0.301\* | 　 | 1.40 | 1.70 | 0.25 |

LVDD: left ventricular end diastolic diameter; LVSD: left ventricular end systolic diameter; LVEF: left ventricle ejection fraction; LVMI: left ventricular mass index; LAD: left atrial diameter; LAVI: left atrial volume index; LAVmax: maximum left atrial volume; LAVmin: left atrial minimum volume; LAVpreA: left atrial pre-atrial contraction volume

\* *p* < 0.05; \*\* *p* < 0.01.

Supplementary Table 2 Correlation coefficients and their paired-comparisons among software for Scd

|  |  |  |  |
| --- | --- | --- | --- |
| 　 | Scd | 　 | Paired-comparisons (Z-score) |
| Parameters | VSSLV | VISLV | VISLA | 　 | VSSLV - VISLV | VSSLV - VISLA | VISLV - VISLA |
| Systolic pressure(mmHg) | 0.558\*\* | 0.505\*\* | 0.507\*\* | 　 | -0.98 | -0.97 | -0.38 |
| Diastolic pressure(mmHg) | 0.305\* | 0.189 | 0.184 | 　 | -0.99 | -1.03 | -0.06 |
| LVDD(mm) | 0.128 | 0.116 | 0.134 | 　 | -0.10 | 0.04 | 0.14 |
| LVSD(mm) | 0.031 | 0.067 | 0.087 | 　 | 0.28 | 0.43 | 0.16 |
| E(cm/s) | -0.582\*\* | -0.573\*\* | -0.559\*\* | 　 | 0.71 | 0.82 | 0.73 |
| A(cm/s) | 0.331\*\* | 0.321\*\* | 0.322\*\* | 　 | -0.18 | -0.18 | -0.09 |
| E/A | -0.594\*\* | -0.593\*\* | -0.591\*\* | 　 | 0.71 | 0.73 | 0.71 |
| E/e’ | 0.222 | 0.273\* | 0.304\* | 　 | 0.37 | 0.61 | 0.19 |
| LVEF(%) | -0.027 | -0.078 | -0.081 | 　 | -0.39 | -0.42 | -0.03 |
| LVMI(g/m2) | 0.577\*\* | 0.566\*\* | 0.590\*\* | 　 | -0.72 | -0.53 | -0.41 |
| LAD(mm) | 0.717\*\* | 0.618\*\* | 0.644\*\* | 　 | -2.22\* | -2.02\* | -0.61 |
| LAVmax(ml) | 0.603\*\* | 0.526\*\* | 0.519\*\* | 　 | -1.34 | -1.39 | -0.51 |
| LAVmin(ml) | 0.651\*\* | 0.564\*\* | 0.587\*\* | 　 | -1.66 | -1.48 | -0.41 |
| LAVpreA (ml) | 0.704\*\* | 0.618\*\* | 0.642\*\* | 　 | -2.00\* | -1.82 | -0.63 |
| Active LA emptying fraction (%) | -0.078 | 0.005 | 0.000 | 　 | 0.65 | 0.61 | -0.04 |
| Passive LA emptying fraction (%) | -0.663\*\* | -0.574\*\* | -0.628\*\* | 　 | 1.75 | 1.32 | 0.20 |
| LV emptying fraction (%) | -0.588\*\* | -0.469\*\* | -0.511\*\* | 　 | 1.61 | 1.28 | -0.02 |
| LA expansion index(%) | -0.542\*\* | -0.397\*\* | -0.466\*\* | 　 | 1.65 | 1.11 | -0.36 |
| LAVI(ml/m2) | 0.537\*\* | 0.486\*\* | 0.479\*\* | 　 | -0.89 | -0.95 | -0.40 |
| Cardiac risk factors | 0.684\*\* | 0.735\*\* | 0.743\*\* | 　 | -0.79 | -0.72 | -1.53 |

LVDD: left ventricular end diastolic diameter; LVSD: left ventricular end systolic diameter; LVEF: left ventricle ejection fraction; LVMI: left ventricular mass index; LAD: left atrial diameter; LAVI: left atrial volume index; LAVmax: maximum left atrial volume; LAVmin: left atrial minimum volume; LAVpreA: left atrial pre-atrial contraction volume

\* *p* < 0.05; \*\* *p* < 0.01.

Supplementary Table 3 Correlation coefficients and their paired-comparisons among software for Sr

|  |  |  |  |
| --- | --- | --- | --- |
| 　 | Sr | 　 | Paired-comparisons (Z-score) |
| Parameters | VSSLV | VISLV | VISLA | 　 | VSSLV - VISLV | VSSLV - VISLA | VISLV - VISLA |
| Systolic pressure(mmHg) | -0.495\*\* | -0.455\*\* | -0.463\*\* | 　 | 0.68 | 0.61 | 0.22 |
| Diastolic pressure(mmHg) | -0.213 | -0.167 | -0.118 | 　 | 0.38 | 0.77 | 0.40 |
| LVDD(mm) | -0.157 | -0.144 | -0.166 | 　 | 0.11 | -0.06 | -0.16 |
| LVSD(mm) | -0.041 | -0.115 | -0.117 | 　 | -0.58 | -0.60 | -0.02 |
| E(cm/s) | 0.522\*\* | 0.536\*\* | 0.521\*\* | 　 | -0.33 | -0.45 | -0.61 |
| A(cm/s) | -0.282\* | -0.262\* | -0.259\* | 　 | 0.22 | 0.24 | 0.07 |
| E/A | 0.489\*\* | 0.481\*\* | 0.474\*\* | 　 | -0.43 | -0.48 | -0.39 |
| E/e’ | -0.188 | -0.244 | -0.266\* | 　 | -0.42 | -0.59 | -0.13 |
| LVEF(%) | -0.003 | 0.080 | 0.093 | 　 | 0.64 | 0.75 | 0.10 |
| LVMI(g/m2) | -0.556\*\* | -0.567\*\* | -0.570\*\* | 　 | 0.47 | 0.44 | 0.57 |
| LAD(mm) | -0.727\*\* | -0.667\*\* | -0.662\*\* | 　 | 1.99\* | 2.03\* | 1.12 |
| LAVmax(ml) | -0.658\*\* | -0.568\*\* | -0.554\*\* | 　 | 1.73 | 1.84 | 0.71 |
| LAVmin(ml) | -0.761\*\* | -0.682\*\* | -0.681\*\* | 　 | 2.48\* | 2.49\* | 1.19 |
| LAVpreA (ml) | -0.773\*\* | -0.706\*\* | -0.696\*\* | 　 | 2.52\* | 2.60\*\* | 1.43 |
| Active LA emptying fraction (%) | 0.180 | 0.076 | 0.091 | 　 | -0.83 | -0.71 | 0.11 |
| Passive LA emptying fraction (%) | 0.692\*\* | 0.679\*\* | 0.668\*\* | 　 | -1.35 | -1.44 | -1.25 |
| LV emptying fraction (%) | 0.696\*\* | 0.616\*\* | 0.613\*\* | 　 | -1.91 | -1.93 | -0.82 |
| LA expansion index(%) | 0.622\*\* | 0.528\*\* | 0.546\*\* | 　 | -1.56 | -1.42 | -0.33 |
| LAVI(ml/m2) | -0.607\*\* | -0.532\*\* | -0.516\*\* | 　 | 1.35 | 1.47 | 0.60 |
| Cardiac risk factors | -0.664\*\* | -0.743\*\* | -0.775\*\* | 　 | 0.44 | 0.19 | 1.42 |

LVDD: left ventricular end diastolic diameter; LVSD: left ventricular end systolic diameter; LVEF: left ventricle ejection fraction; LVMI: left ventricular mass index; LAD: left atrial diameter; LAVI: left atrial volume index; LAVmax: maximum left atrial volume; LAVmin: left atrial minimum volume; LAVpreA: left atrial pre-atrial contraction volume

\* *p* < 0.05; \*\* *p* < 0.01.