**Supplementary Tables**

**Supplementary Table I.** Enrollment and exclusions

|  |  |  |  |
| --- | --- | --- | --- |
| **Group** | **Initially Assigned** | **Died after cell infusion** | **Completed protocol** |
| Vehicle | 13 | 0 | 13 |
| MSCs | 16 | 5 | 11 |
| CMCs | 12 | 1 | 11 |
| CPCs | 13 | 0 | 13 |
| **Total** | **54** | **6** | **48** |

**Supplementary Table II.** Body Weight and Gross Measurements

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **Initial body**  **weight, g** | **Final body**  **weight, g** | **LV weight, mg** | **LV chamber volume,**  **mm3** | **Spleen weight index**  **(mg/g body weight)** |
| Vehicle (n=13) | 160.4±5.7 | 202.8±6.0 | 547.0±21.1 | 197.0±26.0 | 2.54±0.17 |
| MSCs (n=11) | 150.3±2.3 | 190.9±1.2 | 652.4±41.1 | 154.1±27.4 | 2.70±0.20 |
| CMCs (n=11) | 160.4±6.5 | 201.0±5.1 | 537.3±11.9 | 145.2±27.1 | 2.62±0.21 |
| CPCs (n=13) | 154.6±4.8 | 197.7±3.7 | 561.0±27.3 | 176.8±22.0 | 2.27±0.06 |

Data are means ± SEM

Spleen weight index were calculated as organ weight (milligram, mg) per gram (g) of rat body weight.

**Supplementary Table III.** Echocardiographic data

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | | **Vehicle**  **(n=13)** | | **MSCs**  **(n=11)** | | **CMCs**  **(n=11)** | | **CPCs**  **(n=13)** | |
| **Baseline (before MI)** | | | | | | | | | |
| Heart rate (bpm) | | 313.3±6.7 | | 329.4±5.8 | | 303.4±5.8 | | 312.2±5.3 | |
| IW Td (mm) | | 1.25 ±0.05 | | 1.12±0.04 | | 1.22±0.03 | | 1.19±0.04 | |
| IW Ts (mm) | | 2.08±0.11 | | 1.87±0.07 | | 1.96±0.10 | | 1.93±0.08 | |
| LVEDD (mm) | | 5.40±0.09 | | 5.21±0.15 | | 5.30±0.10 | | 5.30±0.16 | |
| LVESD (mm) | | 2.69±0.08 | | 2.56±0.12 | | 2.74±0.18 | | 2.72±0.12 | |
| PWd (mm) | | 1.48±0.06 | | 1.51±0.05 | | 1.40±0.03 | | 1.38±0.05 | |
| PWs (mm) | | 2.41±0.05 | | 2.46±0.07 | | 2.34±0.06 | | 2.23±0.04 | |
| IW ThF (%) | | 66.8±4.8 | | 64.3±5.7 | | 62.8±10.8 | | 62.4±4.2 | |
| PW ThF (%) | | 63.6±3.4 | | 62.5±3.3 | | 67.3±3.0 | | 62.8±4.1 | |
| LVAd (mm2) | | 46±1.1 | | 43.8±1.4 | | 45.4±1.8 | | 42.6±2.0 | |
| LVAs (mm2) | | 20.4±0.6 | | 19.4±0.6 | | 19.9±1.0 | | 18.4±1.0 | |
| CO (ml/min) | | 41.3±1.9 | | 39.8±2 | | 40.5±2.2 | | 37.7±2.3 | |
| EF (%) | | 75.8±0.4 | | 75.3±0.2 | | 76.2±0.8 | | 76.5±0.9 | |
| FS (%) | | 19.1±0.9 | | 20.8±1.1 | | 18.5±1.2 | | 20.5±0.9 | |
| SV (µl) | | 133.0±4.7 | | 122.0±6.3 | | 132.1±7.2 | | 120.2±7.2 | |
| LVEDV (µl) | | 175.8±6.7 | | 161.9±8.1 | | 173.9±10.5 | | 157.8±10.2 | |
| LVESV (µl) | | 42.8±2.1 | | 39.9±1.8 | | 41.8±3.5 | | 37.66±3.2 | |
| FAC (%) | | 55.7±0.5 | | 55.5±0.4 | | 56.3±0.8 | | 57.0±1.0 | |
| **30 days after MI (Pre-Rx)** | | | | | | | | | |
| Heart rate (bpm) | | 315.3±6.8 | | 330.3±5.6 | | 319.7±8.2 | | 324.2±5.1 | |
| IW Td (mm) | | 0.91±0.04*b* | | 0.85±0.04*b* | | 0.92±0.04*b* | | 0.91±0.05*b* | |
| IW Ts (mm) | | 1.37±0.07*b* | | 1.21±0.06*b* | | 1.40±0.09*b* | | 1.37±0.09*b* | |
| LVEDD (mm) | | 6.50±0.22*b* | | 6.69±0.16*b* | | 6.50±0.21*b* | | 6.71±0.19*b* | |
| LVESD (mm) | | 4.64±0.18*b* | | 4.69±0.21*b* | | 4.75±0.21*b* | | 4.80±0.24*b* | |
| PWd (mm) | | 1.29±0.05 | | 1.36±0.09 | | 1.26±0.07 | | 1.42±0.09 | |
| PWs (mm) | | 1.97±0.10 | | 2.08±0.08 | | 1.90±0.11 | | 2.11±0.10 | |
| IW ThF (%) | | 47.7±4.5 | | 43.2±2.2*b* | | 52.7±8.2 | | 51±6.5 | |
| PW ThF (%) | | 54.3±3.8 | | 56.5±6.5 | | 52.4±6.8 | | 51.4±6.1 | |
| LVAd (mm2) | 54.4±2.0*b* | 51.3±1.4*b* | | | 51.8±2.5*a* | | 53.9±1.5*b* | | |
| LVAs (mm2) | 34.6±1.2*b* | 32.0±1.0*b* | | | 33.2±1.6*b* | | 34.2±1.0*b* | | |
| CO (ml/min) | | 41.8±2.3 | | 39.9±1.8 | | 39.7±3.4 | | 42.7±2.3 | |
| EF (%) | | 52.9±0.6*b* | | 52.9±0.3*b* | | 52.0±0.8*b* | | 52.3±0.8*b* | |
| FS (%) | | 13.4±1.1*b* | | 15.8±0.8*b* | | 13.7±1.1*b* | | 13.5±1.3*b* | |
| SV (µl) | | 130.8±7 | | 118.5±5 | | 122.0±9.3 | | 128.6±5.8 | |
| LVEDV (µl) | | 247.3±12.5*b* | | 227.0±9.1*b* | | 234.5±17.3*b* | | 245.8±10.4*b* | |
| LVESV (µl) | | 116.6±6.0*b* | | 105.5±4.3*b* | | 112.5±8.4*b* | | 117.2±5.2*b* | |
| FAC (%) | | 36.1±0.6*b* | | 37.6±0.6*b* | | 35.8±0.8*b* | | 36.5±0.8*b* | |
| **35 days after treatment** | | | | | | | | | |
| Heart rate (bpm) | | 322.0±4.7 | | 332±6.1 | | 330.3±5.6 | | 333.7±4.0 | |
| IW Td (mm) | | 0.95±0.04 | | 0.88±0.04 | | 0.93±0.05 | | 0.99±0.04 | |
| IW Ts (mm) | | 1.45±0.05 | | 1.33±0.06 | | 1.35±0.08 | | 1.43±0.06 | |
| LVEDD (mm) | | 6.96±0.13 | | 7.00±0.14 | | 6.62±0.22 | | 6.77±0.11 | |
| LVESD (mm) | | 4.66±0.14 | | 4.77±0.20 | | 4.55±0.20 | | 4.70±0.16 | |
| PWd (mm) | | 1.34±0.04 | | 1.22±0.05 | | 1.39±0.09 | | 1.32±0.07 | |
| PWs (mm) | | 2.15±0.04 | | 1.93±0.07 | | 2.10±0.08 | | 1.92±0.08 | |
| IW ThF (%) | | 0.95±0.04 | | 0.88±0.04 | | 0.93±0.05 | | 0.99±0.04 | |
| PW ThF (%) | | 1.45±0.05 | | 1.33±0.06 | | 1.35±0.08 | | 1.43±0.06 | |
| LVAd (mm2) | 56.1±2.1 | | | 53.3±1.8 | | 55.7±1.1 | | 56.7±1.4 | |
| LVAs (mm2) | 36.7±1.6 | | | 33.5±1.1 | | 34.3±0.8 | | 33.2±1.0 | |
| CO (ml/min) | | 42.4±2.4 | | 43.1±2.5 | | 45.3±1.8 | | 51.3±2.2*e* | |
| EF (%) | | 50.7±0.6*c* | | 53.5±0.5*de* | | 54.8±0.8*df* | | 58.8±0.8*df* | |
| FS (%) | | 13.2±1.1 | | 15.4±0.8 | | 14.8±0.9 | | 16.4±1.0 | |
| SV (µl) | | 129.4±7.4 | | 127.3±6.4 | | 136.6±5.6 | | 156.1±6.2*de* | |
| LVEDV (µl) | | 256.7±15.3 | | 237.9±12.0 | | 249.3±9.5 | | 265.5±10.2 | |
| LVESV (µl) | | 127.3±8.4 | | 116.6±5.9 | | 112.73±4.7 | | 109.5±4.7 | |
| FAC (%) | | 34.7±0.7 | | 37.1±0.5 | | 38.4±0.7 *f* | | 41.5±0.9*df* | |

Data are means ± SEM

**IW Td**, infarcted wall thickness at end-diastole; **IW Ts**, infarcted wall thickness at end-systole; **LVEDD**, left ventricular end-diastolic diameter; **LVESD**, left ventricular end-systolic diameter; **PWd**, posterior wall thickness at end-diastole; **PWs**, posterior wall thickness at end-systole; **IW ThF**, infarcted wall systolic thickening fraction; **PW ThF**, posterior wall systolic thickening fraction; **LVAd,** left ventricular end-diastolic area; **LVAs,** left ventricular end-systolic area; **CO**, cardiac output; **EF**, ejection fraction; **FS**, fractional shortening; **SV**, stroke volume; **LVEDV**, left ventricular end-diastolic volume; **LVESV**, left ventricular end-systolic volume; and **FAC**, fractional area change. *a*, *P*<0.05, and *b*, *P*<0.01 vs. baseline; *c*, *P*<0.05, and *d*, *P*<0.01 vs. Pre-Rx; *e*, *P*<0.05, and *f*, *P*<0.01 vs. vehicle.**Supplementary Table IV.** Hemodynamic data

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Group** | **Vehicle (n=13)** | **MSCs (n=11)** | **CMCs (n=11)** | **CPCs (n=13)** |
| **Heart rate (bpm)** | 328.4 ± 6.2 | 318.9 ± 5.4 | 315.6 ± 4.6 | 335.3 ± 8.9 |
| **End-systolic Volume (µL)** | 148.3 ± 5.0 | 143.8 ± 3.7 | 138.1 ± 5.4 | 124.4 ± 5.1***b*** |
| **End-diastolic Volume (µL)** | 265.8 ± 8.4 | 264.1 ± 6.5 | 260.6 ± 9.8 | 260.6 ± 7.1 |
| **End-diastolic Pressure (mmHg)** | 9.7 ± 0.4 | 8.1 ± 0.4 | 8.4 ± 0.6 | 8.3 ± 0.3 |
| **Stroke Volume (µL)** | 117.6 ± 4.0 | 120.3 ± 4.3 | 122.5 ± 6.2 | 136.2 ± 4.8***a*** |
| **Ejection Fraction (%)** | 49.8 ± 0.7 | 52.1 ± 0.8 | 51.4 ± 0.7 | 54.1 ± 0.5***b*** |
| **Stroke Work (mmHg\*µL)** | 10.7 ± 0.3 | 12.1 ± 0.5 | 12.0 ± 0.5 | 13.5 ± 0.4***b*** |
| **dP/dt*max* (mmHg/sec)** | 7543 ± 95 | 7944 ± 139 | 8337 ± 150***a*** | 7953 ± 90 |
| **dP/dt*min* (mmHg/sec)** | -7066 ± 221 | -7594 ± 176 | -7867 ± 104***b*** | -7934 ± 111***b*** |
| **V@dP/dt*max* (µL)** | 265.3 ± 7.6 | 257.8 ± 7.3 | 244.8 ± 10.6 | 238.7 ± 9.2 |
| **V@dP/dt*min* (µL)** | 148.9 ± 4.2 | 138.0 ± 3.8 | 132.5 ± 5.2 | 122.2 ± 5.6***b*** |
| **dP/dt*max*-EDV (mmHg/sec/µL)** | 27.3 ± 1.0 | 29.8 ± 1.3 | 33.5 ± 1.8***a*** | 32.0 ± 1.2***a*** |
| **End-Systolic Elastance (mmHg/µL)** | 0.73 ± 0.03 | 0.81 ± 0.03 | 0.80 ± 0.03 | 0.86 ± 0.02***a*** |
| **Preload Recruitable Stroke Work (mmHg)** | 56.5 ± 4.3 | 63.4 ± 5.3 | 71.8 ± 6.3 | 70.1 ± 4.0 |
| **Tau\_w (msec)** | 11.7 ± 0.2 | 11.2 ± 0.2 | 10.9 ± 0.3 | 10.7 ± 0.2***a*** |

Data were means ± SEM

**Tau\_w**, Tau-Weiss method; **EDV**, end-diastolic volume. *a*, *P*<0.05, and *b*, *P*<0.01 vs. vehicle