**Supplementary A1**

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|   | **Responders** | **Non-Responders** | **Response P-value** | **Time P-value** | **Interaction P-Value** |
| **Parameter** | **Baseline**  | **6 weeks** | **6 months**  | **Baseline**  | **6 weeks** | **6 months**  |
| 6MWT (M,mean±SD) | 237.6±130.5 | 304.8±129.0 | 325.1±147.5 | 239.4±127.4 | 265.5±127.7 | 194.9±159.1 | 0.16 | **<0.01** | **<0.01** |
| QoL Score (mean, range) | 50 (9-86) | 19 (0-64) | 21 (0-72) | 48.5 (8-101) | 28.5(0-73) | 32 (0-83) | 0.3 | **<0.01** | **0.01** |
| LVESV (ml, median, range) | 119.3 (49.4-268.7) | 96.0 (41.4-210.8) | 74.9 (30.1-315.6) | 110.2 (56.0-169.4) | 111.2 (56.8-191.6) | 74.2 (24.9-179.7) | 0.20 | **0.01** | 0.55 |
| LVEF (%, mean±SD) | 24.1±7.8 | 29.5±8.9 | 33.4±10.8 | 24.5±8.7 | 30.4±9.6 | 33.1±7.1 | 0.66 | **<0.01** | 0.93 |
| NT-*pro*-BNP (pmol/L, median, range) | 207.0 (53.0-4138.0) | 173.0 (27.0-3848.0) | 116.0 (15.0-1690.0) | 255.5 (67.0-547.0) | 265.5 (49.9-896.0) | 184.0 (30.9-1437.0) | 0.59 | 0.96 | 0.27 |
| Hs-TnT (ng/L, median, range ) | 26.4 (8.5-233.0) | 24.0 (6.7-61.9) | 23.1 (6.5-63.2) | 27.6 (6.5-61.8) | 29.2 (8.4-77.3) | 31.2 (14.5-83.1) | 0.84 | 0.82 | 0.35 |
| PINP (ug/L, median, range) | 43.0 (22.0-141.0) | 48.0 (29.0-136.0) | 53.0 (13.0-107.0) | 38.0 (15.0-113.01.60±0.20 | 39.0 (16.0-69.0) | 41.0 (14.0-94.0) | **0.04** | **0.02** | 0.41 |
| CTx (ug/L,, median, range) | 0.48 (0.14-1.14) | 0.43 (0.08-1.06) | 0.38 (0.07-1.30) | 0.31 (0.16-0.73) | 0.27 (0.16-0.59) | 0.30 (0.10-0.79) | 0.05 | 0.33 | 0.36 |
| PIIINP (ug/L,mean±SD) | 1.09±0.35 | 1.10±0.32 | 1.01±0.36 | 0.94±0.43 | 0.65±0.50 | 0.87±0.47 | 0.13 | 0.1 | 0.44 |
| MMP-2(ug/L, median, range) | 258.8 (157.0-789.5) | 241.3 (163.9-695.2) | 243.2 (159.8 (159.8-625.4) | 323.5 (155.3-543.4) | 295.1 (162.0(512.3) | 299.8 (162.4-515.9) | 0.51 | **<0.01** | 0.19 |
| MMP-9 (ug/L, median, range) | 71.8 (13.6-254.1) | 52.3 (5.6-192.9) | 61.3 (8.8-126.1) | 80.8 (13.6-254.1 | 65.2 (29.5-129.6) | 58.3 (16.9-143.3) | 0.77 | **0.01** | 0.66 |
| GDF-15 (ug/L, median, range) | 2.66 (1.12-10.29) | 2.69 (0.97-6.27) | 2.34 (0.99-5.68) | 2.75 (1.20-5.95) | 3.06 (1.09-5.54) | 3.63 (1.32-8.49) | 0.20 | 0.41 | 0.08 |
| miR-21 (RQ, median, range) | 0.77 (0.3-1.9) | 0.65 (0.31-1.98) | 0.71 (0.32-1.85) | 0.82 (0.5-2.4) | 0.83 (0.53-2.31) | 0.66 (0.34-1.41) | 0.39 | 0.15 | 0.75 |
| miR-30d (RQ, median, range) | 0.81 (0.2-2.55) | 0.72 (0.35-1.85) | 0.76 (0.37-1.28) | 0.68 (0.29-2.27) | 0.99 (0.4-1.84) | 0.61 (1.78-1.65) | 0.56 | 0.9 | 0.14 |
| miR-122 (RQ, median, range) | 0.45 (0.08-3.60) | 0.33 (0.10-2.61) | 0.43 (0.10-2.07) | 0.69 (0.06-2.48) | 0.84 (0.10-2.18) | 0.44 (0.20-5.74) | 0.03 | 0.12 | 0.53 |
| miR-133a (RQ, median, range) | 0.34 (0.01-4.52) | 0.46 (0.01-15.45) | 0.64 (0.01-3.75) | 1.28 (0.01-3.79) | 0.29 (0.01-2.42) | 0.30 (0.01-2.75) | 0.5 | 0.49 | 0.16 |
| miR-210 (RQ, median, range) | 0.57 (0.17-5.12) | 0.85 (0.05-4.05) | 0.61 (0.13-3.08) | 0.79 (0.03-3.61) | 0.63 (0.02-3.59) | 0.78 (0.04-4.01) | 0.85 | 0.85 | 0.81 |
| miR-486 (RQ, median, range) | 0.87 (0.17-3.14) | 0.69 (0.32-3.15) | 0.56 (0.33-1.59) | 0.73 (0.21-2.48) | 0.93 (0.36-1.89) | 0.60 (0.17-1.01) | 0.51 | 0.05 | 0.63 |

**Behavior of Functional LV Geometry and Vascular Biomarkers Following CRT Implantation.** Interaction between responders status and over time analysed.

**Supplementary A2**

Trends in functional variables, LV geometry and biomarker expression following CRT in responders and non-responders

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**Supplementary A3**

Bivariate correlation analysis of short/long-term changes following CRT between biomarkers versus functional and echocardiographic variables



**Supplementary A4**

Univariate and Multivariate Regression Model of Pre-CRT implant variables for prediction of functional response at 6months



**Supplementary A5**

Variation between biomarker expression in peripheral and coronary sinus blood



**Supplementary A6**

**Comparison between baseline biomarker expression for participants with and without MACE at 12 months following CRT implantation.**

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| --- | --- | --- | --- |
| **Biomarkers** | **MACE = 8** | **No MACE = 44** | **p-value** |
| Log10 PINP (ug/L, mean±SD) | 1.69±0.15 | 1.64±0.18 | 0.45 |
| Log10 CTx (ug/L,mean±SD) | -0.37±0.11 | -0.42±0.24 | 0.31 |
| PIIINP (ug/L,mean±SD) | 1.25±0.49 | 1.01±0.37 | 0.15 |
| Log10 MMP-2(ug/L,mean±SD) | 2.46±0.14 | 2.49±0.16 | 0.94 |
| Log10 MMP-9 (ug/L,mean±SD) | 1.96±0.20 | 1.84±0.26 | 0.35 |
| Log10 GDF-15 (ug/L,mean±SD) | 0.42±0.20 | 0.41±0.23 | 0.81 |
| miR-21 (RQ, median, range) | 0.79 (0.50-1.0) | 0.75 (0.30-2.40) | 0.86 |
| miR-30d (RQ, median, range) | 0.53 (0.35-0.87) | 0.71 (0.20-2.55) | 0.05 |
| miR-122 (RQ, median, range) | 0.60 (0.14-1.38) | 0.50 (0.06-3.60) | 0.54 |
| miR-133a (RQ, median, range) | 1.23 (0.02-3.35) | 0.53 (0.01-4.52) | 0.47 |
| miR-210 (RQ, median, range) | 0.79 (0.06-1.43) | 0.68 (0.17-5.12) | 0.61 |
| miR-486 (RQ, median, range) | 0.77 (0.28-1.90) | 0.76 (0.17-3.14) | 0.57 |