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**Supplementary Table 6**; Summary of Cardiac Biomarker; N terminal pro Brain natriuretic peptide (NT Pro BNP).

**Supplementary Table 1**. Summary of change in six-minute walk test baseline to 1 month and 3 months

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Group | n | Mean (SD) | Median  (IQR) | p-value |
| Change from baseline to 1 month | FDI | 22 | 3.5 (108.1) | 14.5 (-6, 38) | 0.952 |
| Placebo | 25 | 5.0 (58.8) | 1 (-29, 33) |
| Change from baseline to 3 months | FDI | 20 | 6.0 (89.1) | 29 (-36, 55) | 0.895 |
| Placebo | 24 | 1.9 (111.2) | 10.5 (-36, 45.5) |

**Supplementary Table 2a**. Summary of Minnesota Living with Heart Failure (MHLF) Questionnaire at baseline to 1 month and 3 months

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  | FDI | | | Placebo | | |  |
|  | Mean | SD | n | Mean | SD | n | P value |
| MLHF | Baseline | 22.7 | 25.7 | 18 | 25.0 | 27.3 | 24 |  |
| 1 month | 20.6 | 24.7 | 22 | 20.9 | 23.9 | 23 | 0.569 |
| 3 months | 18.3 | 21.9 | 20 | 19.0 | 22.2 | 21 | 0.630 |

**Supplementary Table 2b**. Summary of Restless legs score (RLS) Questionnaire at baseline to 1 month and 3 months

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Group 1 | | | | |
| Ferric Derisomaltose | | Placebo | |  |
| Mean, n | SD | Mean, n | SD |  |
| RLS Baseline | 9.5 | 10.4 | 9.8 | 10.4 |  |
| RLS 1 month | 8.5 | 11.4 | 9.33 | 11 | p=NS |
| RLS 3 month | 7.5 | 9.5 | 6.9 | 9.9 | p=NS |

**Supplementary Table 3a and b**. Descriptive summary of Kidney Disease Quality of Life – Short form -13 (KDQoL-SF) mean z transformed and normalised scores Questionnaire at baseline to 1 month and 3 months for total component summary measure (Physical Health and Mental Health individually and the total overall score). Analysis for table 3a using ANCOVA and subsequent Table 3b repeated measures analysis.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | Group | | | | | | p-value |
| Placebo | | | Ferric Derisomaltose (FDI) | | |
| Mean | SD | n | Mean | SD | n |
| **Vitality** |  |  |  |  |  |  |  |
| Baseline | 39.7 | 10.7 | 27 | 43.3 | 9.9 | 20 |  |
| 1 month | 42.5 | 9.3 | 25 | 44.0 | 9.9 | 22 | 0.880 |
| 3 months | 41.4 | 9.9 | 24 | 44.1 | 10.0 | 21 | 0.475 |
| **Physical Health** |  |  |  |  |  |  |  |
| Baseline | 38.5 | 9.7 | 27 | 39.0 | 9.6 | 21 |  |
| 1 month | 39.6 | 9.5 | 25 | 40.9 | 9.0 | 22 | 0.659 |
| 3 months | 36.8 | 11.9 | 25 | 39.1 | 9.4 | 20 | 0.823 |
| **Mental** **Health** |  |  |  |  |  |  |  |
| Baseline | 42.2 | 10.2 | 27 | 42.3 | 11.2 | 22 |  |
| 1 month | 44.1 | 9.5 | 25 | 45.4 | 9.3 | 22 | 0.990 |
| 3 months | 42.8 | 10.3 | 24 | 44.6 | 10.6 | 21 | 0.936 |
| **Total score** |  |  |  |  |  |  |  |
| Baseline | 40.3 | 9.5 | 27 | 40.2 | 10.4 | 22 |  |
| 1 month | 41.8 | 9.2 | 25 | 43.2 | 8.5 | 22 | 0.795 |
| 3 months | 39.2 | 11.3 | 25 | 41.4 | 9.7 | 21 | 0.892 |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Group |  | Mean | SE | 95% Confidence Interval | | p-value |
| Lower | Upper |  |
| Vitality |  |  |  |  |  |  |
| FDI  n=13 | Baseline | 40.8 | 2.1 | 36.5 | 45.1 | 0.910 |
| 1 month | 43.2 | 2.0 | 39.1 | 47.3 |
| 3 months | 42.2 | 2.1 | 38.1 | 46.4 |
| Placebo  n=22 | Baseline | 41.7 | 2.7 | 36.1 | 47.3 |
| 1 month | 40.9 | 2.6 | 35.5 | 46.2 |
| 3 months | 44.4 | 2.7 | 39.0 | 49.9 |
| Physical Health |  |  |  |  |  |  |
| FDI  n=14 | Baseline | 39.3 | 1.9 | 35.5 | 43.2 | 0.499 |
| 1 month | 39.4 | 1.9 | 35.5 | 43.3 |
| 3 months | 37.9 | 2.3 | 33.2 | 42.5 |
| Placebo  n=23 | Baseline | 36.8 | 2.4 | 31.9 | 41.8 |
| 1 month | 37.9 | 2.5 | 32.9 | 42.9 |
| 3 months | 36.8 | 2.9 | 30.8 | 42.8 |
| Mental Health |  |  |  |  |  |  |
| FDI  n=14 | Baseline | 43.2 | 2.1 | 38.8 | 47.5 | 0.711 |
| 1 month | 44.4 | 2.1 | 40.1 | 48.7 |
| 3 months | 43.7 | 2.1 | 39.4 | 48.0 |
| Placebo  n=22 | Baseline | 42.1 | 2.7 | 36.7 | 47.6 |
| 1 month | 42.5 | 2.6 | 37.2 | 47.9 |
| 3 months | 43.8 | 2.6 | 38.4 | 49.2 |
| Total score |  |  |  |  |  |  |
| FDI  n=14 | Baseline | 41.0 | 1.9 | 37.1 | 44.8 | 0.703 |
|  | 1 month | 41.6 | 1.9 | 37.8 | 45.5 |
|  | 3 months | 40.1 | 2.2 | 35.8 | 44.5 |
| Placebo  n=23 | Baseline | 39.5 | 2.4 | 34.5 | 44.4 |
|  | 1 month | 40.2 | 2.4 | 35.2 | 45.2 |
|  | 3 months | 40.3 | 2.8 | 34.7 | 45.9 |

**Supplementary Table 4**. Summary of Renal Function as assessed by serum creatinine (micromole/L). eGFR (ml/min/1.73m2), Cystatin C (g/L) and urinary proteinuria (mg/mmol) were similar in both groups and there was no significant change from baseline to 1 or 3 months. uACR – urinary abbumin;creatinine ratio; uPCR = urinary protein creatinine ratio.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Group | | | | |
| Ferric Derisomaltose | | Placebo | |  |
| Mean, n | SD | Mean, n | SD | P value |
| Serum Creatinine Baseline | 167.0, 26 | 40.2 | 204.9, 28 | 67.3 |  |
| Serum Creatinine 1 month | 165.0, 23 | 39.1 | 210.3, 26 | 68.0 | 0.207 |
| Serum Creatinine 3 month | 171.2, 21 | 45.3 | 207.8, 24 | 72.3 | 0.545 |
|  |  |  |  |  |  |
| eGFR Baseline | 33.2, 26 | 9.3 | 29.1, 28 | 9.9 |  |
| eGFR 1 month | 33.5, 22 | 9.9 | 28.1, 25 | 8.6 | 0.085 |
| eGFR 3 month | 32.1, 21 | 9.5 | 28.2, 23 | 8.6 | 0.644 |
|  |  |  |  |  |  |
| Cystatin C Baseline | 2.1, 26 | 0.5 | 2.4, 26 | 0.6 |  |
| Cystatin C 1 month | 2.2, 24 | 0.5 | 2.4, 26 | 0.7 | 0.835 |
| Cystatin C 3 month | 2.2, 24 | 0.5 | 2.3, 25 | 0.6 | 0.267 |
|  |  |  |  |  |  |
| uACR Baseline | 26.9, 13 | 40 | 94.8, 13 | 181.4 |  |
| uACR 1 month | 34.9, 11 | 50.2 | 42.6, 8 | 61.6 | 0.439 |
| uACR 3 month | 49.5, 11 | 71.7 | 42.5, 12 | 44.7 | 0.232 |
|  |  |  |  |  |  |
| uPCR Baseline | 51.9, 19 | 59.3 | 112.7, 21 | 164.8 |  |
| uPCR 1 month | 44.3, 16 | 80.9 | 59.9, 20 | 79.8 | 0.636 |
| uPCR 3 months | 58.1, 16 | 92.3 | 70.0, 17 | 102.1 | 0.725 |

**Supplementary Table 5**: Summary of mean blood pressure (BP) in mmHG and Pulse wave velocity (PWV) measures including augmentation index (AiX) at baseline, 1 month and 3 months

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Group | | | | |
| Ferric Derisomaltose | | Placebo | |  |
| Mean, n | SD | Mean, n | SD | P value |
| PWV measurement Baseline | 8.3, 26 | 2.8 | 8.3, 28 | 3.6 |  |
| PWV measurement 1 month | 8.0, 22 | 2.0 | 8.3, 26 | 2.0 | 0.371, 0.638 |
| PWV measurement 3 month | 8.3, 22 | 1.9 | 9.7, 24 | 6.6 | 0.184, 0.287 |
|  |  |  |  |  |  |
| AiX measurement Baseline | 25.4, 26 | 10.7 | 24.1, 28 | 10.8 |  |
| AiX measurement 1 month | 21.0, 22 | 10.5 | 21.6, 26 | 12.4 | 0.638, 0.814 |
| AiX measurement 3 month | 25.5, 22 | 10.6 | 24.3, 23 | 11.8 | 0.287, 0.716 |
|  |  |  |  |  |  |
| Systolic BP baseline | 138.2, 26 | 19.9 | 129.4, 28 | 18.4 |  |
| Systolic BP 1 month | 133.8, 23 | 22.3 | 130.5, 25 | 11.6 | 0.510 |
| Systolic BP 3 months | 134.2, 22 | 13.7 | 130.0, 25 | 16.2 | 0.875 |
|  |  |  |  |  |  |
| Diastolic BP baseline | 78.5, 26 | 10.7 | 76.2, 28 | 11.8 |  |
| Diastolic BP 1 month | 78.3, 23 | 12.0 | 73.6, 25 | 10.8 | 0.417 |
| Diastolic BP 3 months | 79.9, 22 | 9.0 | 73.6, 25 | 13.7 | 0.257 |

**Supplementary Table 6**; Summary of Cardiac Biomarker; N terminal pro Brain natriuretic peptide (NT Pro BNP) ng/L.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| NT pro BNP (ng/L) | Group | | | | |
| Ferric Derisomaltose | SD | Placebo | SD | P Value |
| Baseline | 422.5, 25 | 881.9 | 545.4, 26 | 1569.5 |  |
| 1 month | 242.5, 24 | 209.1 | 608.8, 27 | 1891.0 | 0.371 |
| 3 month | 278.5, 23 | 227.9 | 505.6, 27 | 1578.2 | 0.184 |