

Tables.

Table 1. Baseline Characteristics

	Spironolactone (n=19)	Control (n=21)	P
Sex (male:female)	10M : 9F	10M : 11F	0.75
Age (yrs)	76.4 ± 5.4	74.0 ± 8.8	0.295
BMI (kg/m ²)	29.8 ± 5.3	29.1 ± 7.1	0.71
<i>Co-morbidities</i>			
Hypertension (%)	15 (79)	13 (62)	0.240
Atrial Fibrillation (%)	17 (89)	15 (71)	0.154
<i>Heart Rate; Sinus</i>	77 ± 10.6	74.5 ± 12.5	0.541
<i>Heart Rate; Atrial Fibrillation</i>	77 ± 19.8	73.8 ± 7.5	0.745
Ischaemic Heart Disease (%)	0 (0)	1 (5)	0.335
Cerebro-vascular disease (%)	3 (16)	0 (0)	0.058
<i>Medications</i>			
ACE inhibitor/ARB	11 (58)	12 (57)	0.962
Beta-Blocker	10 (53)	14 (67)	0.366
Calcium Channel Blocker	11 (58)	12 (57)	0.962
Digoxin	3 (16)	9 (43)	0.062
Diuretic	12 (63)	12 (57)	0.698
<i>NYHA Status</i>			
II	14	17	0.583
III	5	4	
IV	0	0	

ACE, Angiotensin converting enzyme inhibitor; ARB, Angiotensin receptor blocker; NYHA, New York Heart Association; BMI, Body Mass Index

Table 2. Baseline and intervention effect; multimodality imaging

	Spironolactone			Control			Change over study period		
	Baseline	Completion	P	Baseline	Completion	P	Intervention	Control	P
CMR Volumetric									
LVEDV (ml)	142.5 ± 26.5	129.8 ± 21.6	0.001	138.9 ± 35.3	136.9 ± 38.2	0.44	-12.6 ± 14.3	-2.00 ± 11.7	0.014
Indexed LVEDV (ml/m ²)	71.8 ± 14.0	65.4 ± 11.2	0.001	71.8 ± 18.5	70.7 ± 19.5	0.43	-6.4 ± 7.4	-3.40 ± 11.3	0.33
LV mass (g)	104.4 ± 26.2	94.0 ± 20.6	0.001	101.4 ± 29.4	104.0 ± 32.8	0.11	-10.5 ± 10.9	2.6 ± 6.9	0.00
Indexed LV mass (g/m ²)	52.7 ± 14.1	47.3 ± 10.8	>0.001	52.1 ± 14.0	53.3 ± 15.1	0.15	-5.4 ± 5.5	1.1 ± 3.7	0.00
LVEF (%)	53.5 ± 5.5	53.8 ± 6.6	0.85	54.8 ± 5.2	58.2 ± 6.4	0.001	0.3 ± 6.7	3.5 ± 4.0	0.084
RVEDV (ml)	140.0 ± 26.6	137.7 ± 19.4	0.60	153.0 ± 43.4	155.5 ± 43.7	0.49	-2.22 ± 17.5	2.50 ± 15.9	0.39
Indexed RVEDV (ml/m ²)	74.4 ± 14.6	73.31 ± 11.3	0.64	76.3 ± 20.1	78.9 ± 18.9	0.45	-1.07 ± 9.6	1.46 ± 8.5	0.39
RVEF (%)	48.4 ± 5.7	47.1 ± 7.0	0.26	46.5 ± 6.6	44.8 ± 15.8	0.64	-1.3 ± 4.8	-1.8 ± 16.4	0.91
Left Atrial volume (ml)	145.6 ± 32.2	142.4 ± 30.7	0.44	133.7 ± 36.8	135.0 ± 36.8	0.70	-3.3 ± 17.4	1.4 ± 14.9	0.39
Indexed left atrial volume (ml/m ²)	73.6 ± 16.7	72.0 ± 15.7	0.45	69.1 ± 18.5	69.9 ± 18.4	0.67	-1.6 ± 8.9	0.8 ± 7.6	0.38
Right Atrial volume (ml)	157.6 ± 40.3	148.5 ± 35.2	0.11	153.1 ± 49.9	146.6 ± 45.2	0.17	-9.1 ± 23.1	-6.5 ± 20.0	0.72
Indexed Right Atrial value (ml/m ²)	79.6 ± 20.3	74.6 ± 15.8	0.080	79.0 ± 24.8	75.6 ± 21.9	0.19	-5.0 ± 11.4	-3.4 ± 10.6	0.65
Echo Tissue Relaxation									
Lateral E'	11.22 ± 2.42	11.09 ± 2.59	0.87	10.21 ± 3.39	10.99 ± 4.48	0.24	-0.12 ± 3.043	0.83 ± 3.07	0.34
Septal E'	8.65 ± 2.00	8.14 ± 1.72	0.21	8.09 ± 3.24	7.89 ± 2.80	0.71	-0.51 ± 1.72	-0.24 ± 2.48	0.70
Mean E'	9.89 ± 1.87	9.15 ± 2.81	0.22	9.15 ± 3.36	9.44 ± 3.49	0.58	-0.32 ± 1.86	0.29 ± 2.43	0.39
CMR Tissue Characterisation									
Native T1 (ms)	1229 ± 52	1207 ± 87	0.31	1266 ± 59	1241 ± 71	0.018	1 ± 107	-22 ± 2	0.39
ECV (%)	28.7 ± 3.7	27.7 ± 3.4	0.14	27.6 ± 3.4	28.3 ± 4.4	0.14	-1.0 ± 2.43	0.8 ± 2.2	0.019
Indexed Cellular Mass (g)	37.6 ± 10.0	34.3 ± 7.9	0.001	37.5 ± 9.6	37.8 ± 9.8	0.54	-3.3 ± 3.7	1.1 ± 5.3	0.001
Indexed Extracellular Mass (g)	15.1 ± 4.8	13.0 ± 3.4	0.002	14.4 ± 4.8	15.0 ± 5.9	0.091	-2.1 ± 2.6	0.8 ± 1.7	<0.001

CMR, cardiovascular magnetic resonance; LV left ventricle; LVEDV, left ventricular end diastolic volume; LVEF, left ventricular ejection fraction; RVEDV, right ventricular end diastolic volume; RVEF, right ventricular ejection fraction; ECV, extracellular volume

Table 3. Baseline and intervention effect; blood pressure and serum

	Spironolactone			Control			Change over study period		
	Baseline	Completion	P	Baseline	Completion	P	Intervention	Control	P
Blood Pressure									
Systolic (mmHg)	130.8 ± 19.1	120.2 ± 13.5	<0.01	129.6 ± 9.9	130.5 ± 13.1	0.625	-9.94 ± 13.2	1.00 ± 13.3	0.017
Diastolic (mmHg)	76.8 ± 8.0	72.1 ± 6.8	0.013	75.4 ± 11.4	79.1 ± 12.6	0.195	-4.33 ± 6.7	2.84 ± 11.1	0.023
MABP (mmHg)	94.2 ± 10.4	79.7 ± 5.9	<0.01	94.6 ± 8.9	89.2 ± 8.8	0.045	-5.47 ± 6.9	0.89 ± 10.0	0.035
Pulse Pressure (mmHg)	52.1 ± 19.0	38.7 ± 18.6	0.004	54.2 ± 11.2	50.2 ± 21.1	0.353	-5.61 ± 9.4	-1.84 ± 10.2	0.252
Laboratory									
Creatinine (mmol/L)	97.4 ± 27.2	109.6 ± 37.0	<0.01	101.33 ± 38.1	96.3 ± 29.0	0.460	12.7 ± 14.7	-5.1 ± 30.7	0.027
Potassium (mmol/L)	4.11 ± 0.4	4.31 ± 0.4	0.056	4.06 ± 0.22	4.10 ± 0.43	0.673	0.26 ± 0.35	0.04 ± 0.46	0.097
Serum Biomarkers									
NT-proBNP (pg/mL)	1667 ± 1246	1619 ± 1169	0.753	1706 ± 1588	1599 ± 1496	0.494	-78 ± 676	-107 ± 685	0.895
P1NP	52.32 ± 18.83	51.47 ± 19.94	0.733	57.15 ± 31.47	50.25 ± 26.06	0.130	-1.72 ± 10.16	-6.90 ± 19.52	0.307
P3NP	9.816 ± 3.22	9.02 ± 2.94	0.223	10.0 ± 3.70	8.39 ± 2.93	0.013	-0.53 ± 2.57	-1.61 ± 2.70	0.208
HS-CRP	4.55 ± 3.33	4.09 ± 3.13	0.560	5.30 ± 3.91	5.06 ± 3.60	0.629	-0.79 ± 3.1	-0.25 ± 2.29	0.536
MMP3	228.29 ± 50.04	224.65 ± 57.65	0.762	237.63 ± 72.59	243.85 ± 54.20	0.663	-3.64 ± 51.64	6.21 ± 64.28	0.599

MABP, Mean arterial blood pressure; NT-proBNP, N terminal brain natriuretic peptide; P1NP, procollagen type I N-terminal peptide; P3NP, procollagen type III N-terminal peptide; HS-CRP, High sensitivity C reactive protein; MMP3, matrix metalloproteinase 3

Table 4. Correlation of selected imaging and physiological changes

Change ECV	R	P	Change indexed LV mass	R	P
ECV (%)	-	-	ECV	0.442	<0.01
Indexed LV mass (g/m ²)	0.442	<0.01	Indexed LV mass (g/m ²)	-	-
Indexed LVEDV (ml/m ²)	0.401	0.011	Indexed LVEDV (ml/m ²)	0.610	<0.01
Indexed LA vol (ml/m ²)	0.307	0.065	Indexed LA vol (ml/m ²)	0.273	0.107
Indexed RVEDV (ml/m ²)	0.196	0.238	Indexed RVEDV (ml/m ²)	0.305	0.062
RVEF (%)	0.464	<0.01	RVEF (%)	0.074	0.663
Lateral E' (cm/s)	0.279	0.086	Lateral E' (cm/s)	0.069	0.685
Septal E' (cm/s)	0.240	0.141	Septal E' (cm/s)	0.103	0.543
Mean E' (cm/s)	0.348	0.030	Mean E' (cm/s)	0.097	0.568
Systolic BP (mmHg)	0.236	0.160	Systolic BP (mmHg)	0.468	<0.01
Diastolic BP (mmHg)	0.163	0.336	Diastolic BP (mmHg)	0.357	0.032
MABP (mmHg)	0.153	0.374	MABP (mmHg)	0.367	0.030

ECV, extracellular volume; BP, blood pressure; LA, left atrium; LV, left ventricle; LVEDV, left ventricular end diastolic volume; MABP, mean arterial blood pressure; RVEDV, right ventricular end diastolic volume; RVEF, right ventricular ejection fraction