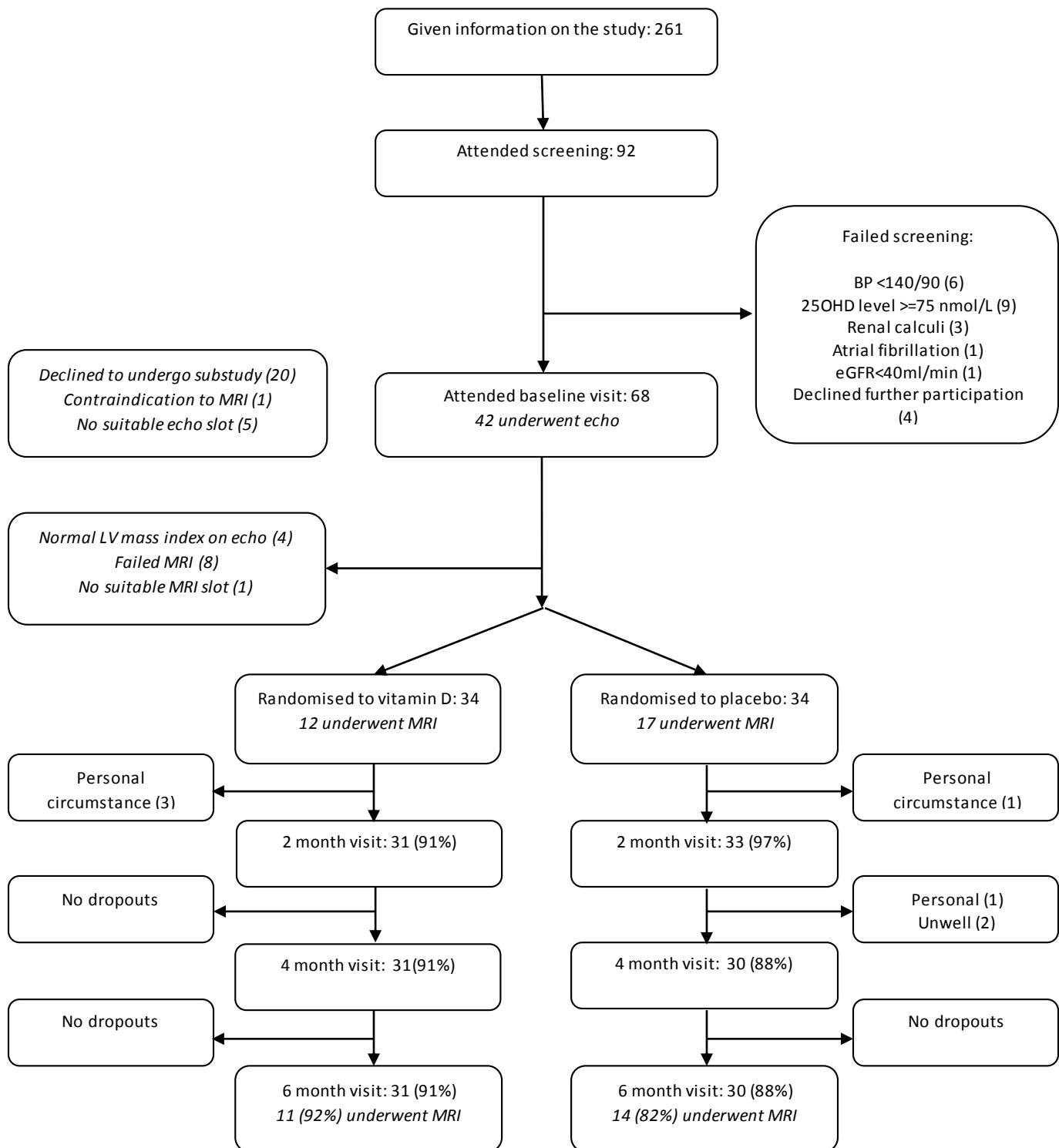


Participant flow



Baseline characteristics

Parameter	Vitamin D (n=34)	Placebo (n=34)
Age (years) (SD)	65.1 (9.4)	61.4 (12.7)
Male Sex (%)	22 (65)	22 (65)
Mean office systolic blood pressure (mmHg) (SD)	153 (11)	155 (14)
Mean office diastolic blood pressure (mmHg) (SD)	82 (10)	86 (9)
Mean 24 hr systolic blood pressure (mmHg) (SD)	138 (18)	137 (13)
Mean 24 hr diastolic blood pressure (mmHg) (SD)	76 (8)	78 (9)
Mean daytime systolic blood pressure (mmHg) (SD)	142 (18)	140 (13)
Mean daytime diastolic blood pressure (mmHg) (SD)	78 (9)	81 (9)
Mean nighttime systolic blood pressure (mmHg) (SD)	134 (20)	128 (16)
Mean nighttime diastolic blood pressure (mmHg) (SD)	71 (8)	73 (10)
Previous myocardial infarction (%)	5 (15)	3 (9)
Angina (%)	7 (21)	5 (15)
Peripheral vascular disease (%)	1 (3)	0 (0)
Stroke / TIA (%)	3 (9)	4 (12)
Diabetes mellitus (%)	9 (27)	8 (24)
Current smoker (%)	3 (9)	1 (3)
BMI (Kg ^m ⁻²) (SD)	31.4 (5.3)	32.0 (5.5)
LV mass index by echocardiography (gm ⁻²) (SD)	140 (40)	140 (23)
Median number of antihypertensives (IQR)	3.5 (2)	3 (1)
On ACE inhibitor (%)	14 (42)	17 (50)

On ARB (%)	17 (50)	17 (50)
On alpha blocker (%)	19 (54)	12 (35)
On beta blocker (%)	13 (38)	14 (42)
On calcium channel blocker (%)	22 (65)	28 (84)
On thiazide (%)	20 (59)	17 (50)
On aldosterone antagonist (%)	8 (24)	11 (32)
On any diuretic (%)	29 (85)	30 (88)
25OHD (nmol/L) (SD)	41 (14)	42 (18)
Adjusted calcium (mmol/L) (SD)	2.29 (0.08)	2.32 (0.06)
PTH (pmol/L) (SD)	5.6 (2.7)	5.2 (2.2)
Glucose (mmol/L) (SD)	6.8 (3.0)	6.1 (2.0)
Cholesterol (mmol/L) (SD)	4.6 (0.8)	4.6 (1.1)

TIA: Transient ischaemic attack. BMI: Body mass index. LV: Left ventricular. ACEi: Angiotensin converting enzyme inhibitor. ARB: Angiotensin receptor blocker. 25OHD: 25-hydroxyvitamin D. PTH: Parathyroid hormone

Outcome measures

Primary outcome measure

Office blood pressure						
	Vitamin D	Placebo	P	Vitamin D	Placebo	P
	<i>Systolic BP (mmHg)(SD)</i>			<i>Diastolic BP (mmHg)(SD)</i>		
Baseline	153 (11)	155 (14)	0.51	82 (10)	86 (9)	0.06
2 mths	154 (18)	150 (12)	0.40	82 (10)	83 (11)	0.66
4 mths	152 (14)	147 (13)	0.21	81 (11)	82 (10)	0.64
6 mths	151 (19)	146 (16)	0.35	82 (8)	80 (11)	0.40
Unadjusted treatment effect*	4 (-2 to 10)		0.24	-3 (-7 to 1)		0.18
Adjusted treatment effect* †	4 (-3 to 10)		0.25	-3 (-7 to 1)		0.18

*Repeated measures treatment effect. †Adjusted for baseline 25OHD level

Secondary outcome measure: Left Ventricular Mass Index (LVMI)

Timepoint	Active (n=11)	Placebo (n=14)	p
Baseline LVMI (gm ⁻²) (SD)	57 (13)	62 (16)	0.58
6 month LVMI (gm ⁻²) (SD)	58 (13)	61 (16)	0.58
Unadjusted treatment effect (95% CI)	2 (-1 to 5)		0.26
Adjusted* treatment effect (95% CI)	4 (0 to 7)		0.04

*adjusted for baseline systolic BP and 25OHD level

Adverse events

Event category	Vitamin D	Placebo
Musculoskeletal	9	9
Dizziness	2	4
Infection	9	7
Cardiovascular	1	1
Gastrointestinal	4	5
Respiratory	0	2
Skin	1	2
Hypercalcemia*	0	0
Metabolic	1	2
Other	8	6
Total	35	38
Hospitalisation	0	1
Death	0	0

*Albumin-adjusted calcium >2.60 mmol/L