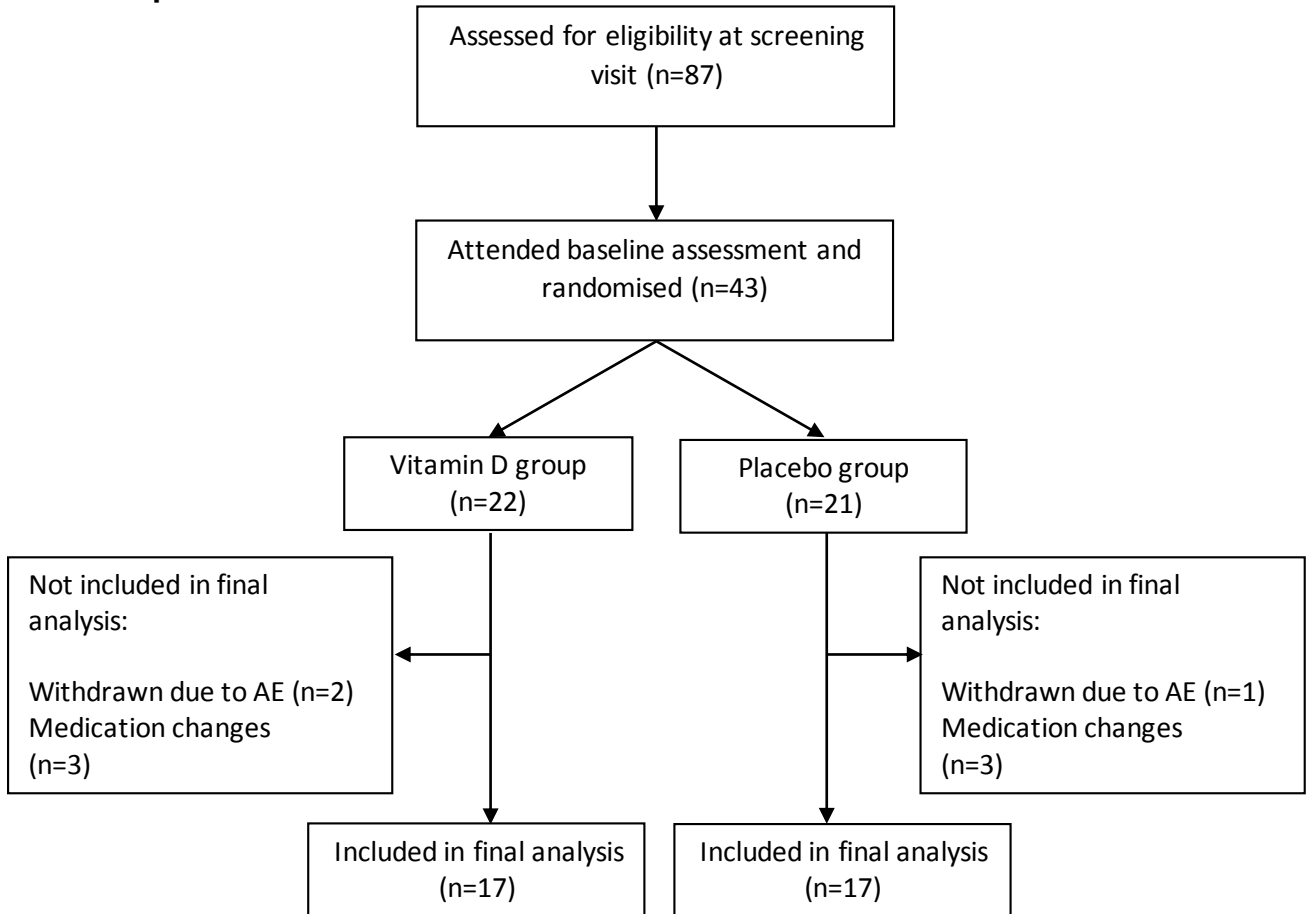


Participant Flow



Baseline characteristics

	Vitamin D (n=17)	Placebo (n=17)	p
Age (years) (SD)	64.9 (10.3)	63.5 (9.5)	0.68
Male sex (%)	10 (59)	8 (47)	0.49
Previous stroke (%)	1 (6)	1 (6)	1.00
Previous myocardial infarction (%)	3 (18)	2 (12)	0.50
Angina (%)	3 (18)	0 (0)	0.11
Smoker (yes/no/ex)	3 / 10 / 4	2 / 7 / 8	
Metformin (%)	12 (71)	6 (35)	0.04
Sulphonylurea (%)	6 (35)	5 (29)	0.50
Glitazone (%)	4 (24)	5 (29)	0.50
Insulin (%)	3 (18)	3 (18)	1.00
Statin/fibrate (%)	13 (76)	9 (53)	0.14
ACEi / ARB (%)	14 (82)	7 (41)	0.02
Aspirin (%)	10 (59)	5 (29)	0.06
Beta blocker (%)	3 (8)	5 (29)	0.34
Calcium channel blockers (%)	3 (18)	2 (12)	0.05
Body mass index (kg/m ²) (SD)	31.7 (6.4)	31.7 (6.5)	0.98
Office systolic blood pressure (mmHg) (SD)	145 (9)	137 (14)	0.07
Office diastolic blood pressure (mmHg) (SD)	82 (11)	79 (6)	0.31
25-hydroxyvitamin D level (nmol/L) (SD)	40 (10)	36 (9)	0.25
FMD response to hyperaemia (%) (SD)	6.4 (4.3)	7.3 (2.9)	0.49
HbA1c (%) (SD)	7.5 (1.6)	7.3 (1.4)	0.69

HOMA (IS) (units) (SD)	165 (145)	177 (136)	0.80
Adjusted serum calcium (mmol/L) (SD)	2.42 (0.07)	2.42 (0.09)	1.00
Serum phosphate (mmol/L) (SD)	1.11 (0.15)	1.13 (0.14)	0.69
Parathyroid hormone (pmol/L) (SD)	4.3 (1.8)	4.9 (2.0)	0.32
Creatinine clearance (ml/min/1.73m ²) (SD)	81 (34)	88 (24)	0.50

ACEi, angiotensin-converting enzyme inhibitor; ARB: Angiotensin receptor blocker. BP, blood pressure; FMD, flow-mediated vasodilation; HbA1c, glycated haemoglobin;

HOMA, homeostatic model assessment; IS, insulin sensitivity; PTH, parathyroid hormone; SD, standard deviation.

Outcome measures

Parameter	Change with vitamin D (SD)	Change with placebo (SD)	P (between groups)
<i>Primary outcome:</i>			
FMD response to hyperaemia	2.35 (3.12)	0.06 (3.39)	0.048
<i>Secondary outcomes:</i>			
25 hydroxyvitamin D (nmol/l)	22.9 (16.6)	7.6 (12.5)	0.02
Calcium (mmol/l)	0.01 (0.08)	-0.04 (0.10)	0.07
Phosphate (mmol/l)	0.05 (0.14)	-0.04 (0.14)	0.08
PTH (pmol/l)	-0.14 (0.99)	-0.18 (0.94)	0.89
HbA1c (%)	0.01 (0.60)	-0.05 (0.39)	0.74
HOMA-IS (units)	-40 (79)	-26 (139)	0.72
Systolic BP (mmHg)	-7.3 (11.8)	6.6 (9.7)	0.001
Diastolic BP (mmHg)	-2.2 (8.6)	2.3 (5.7)	0.08
Renin (ng/ml)	1.85 (0.48)	-0.79 (2.04)	0.06
AngiotensinII (pg/ml)	-6.3 (19.0)	6.8 (30.0)	0.14

BP, blood pressure; FMD, flow-mediated vasodilation; GTN, glyceryl trinitrate; HbA1c, glycated haemoglobin; HOMA, homeostatic model assessment; IS, insulin sensitivity; PTH, parathyroid hormone; SD, standard deviation.

Adverse events

	Vitamin D	Placebo
Bradyarrhythmia	1	0
Acute heart failure	0	1
Below knee amputation	1	0
AKI	0	1
Chest Infection	1	0
TOTAL Events:	3	2
Hospitalisations	2	2
Deaths	0	0