

Table S1. Daily doses of antihypertensive medications

Drug*	Daily dose (mg)	N	Drug*	Daily dose (mg)	N	Drug*	Daily dose (mg)	N
ACE inhibitors			Angiotensin receptor blockers			Diltiazem	60	1
Captopril	25	1	Candesartan	2	2		120	40
	50	1		4	19		180	31
Cilazapril	0.25	1		8	28		240	26
	0.5	58		12	2		360	3
	1	38		16	21	Felodipine	2.5	73
	1.25	24		32	4		5	107
	1.5	4	Losartan	12.5	4		7.5	1
	2.5	183		25	11		10	72
	3.75	3		50	24		15	1
	5	463		100	4		20	3
	7.5	1		200	1	Nifedipine	10	2
	10	10	β-blockers				20	3
Enalapril	2.5	1	Atenolol	25	6		30	2
maleate	5	7		50	17		40	1
	7.5	1		100	13		60	2
	10	5	Carvedilol ¹	6.25	2	Verapamil	80	2
	20	14		12.5	3	hydrochloride	120	1
	40	4		25	4		240	3
Lisinopril	2.5	2		50	5		720	3
	5	2	Celiprolol ¹	200	8	Diuretics		
	10	3		300	1	Amiloride ³	2.5	5
	15	1		400	8		5	9
	20	2	Metoprolol	23.75	1	Bendroflumethiazide	1.25	1
	40	1		50	1	(Bendrofluazide) ²	2.5	193
Perindopril	2	1		47.5	164		5	17
	4	1		71.25	4	Bumetanide ⁴	1	1
Quinapril	2.5	2		95	134	Chlortalidone ²	12.5	6
	5	20		142.5	1		25	6
	7.5	1		190	29		50	1
	10	37	Nadolol	40	5	Furosemide ⁴	20	8
	15	3		80	1		40	51
	20	81		160	1		60	1
	40	22	Pindolol	5	1		80	14
α-blockers				10	1		100	1
Doxazosin	1	3		15	1		120	1
	2	5	Propranolol	20	3		160	1
	4	9		40	2		240	1
	6	2		60	1	Hydrochlorothiazide ²	6.25	5
	8	3		80	1		12.5	324
Terazosin	2	6		160	2		25	13
	2.5	1	Sotalol	40	2		50	8
	4	6		80	3	Indapamide ²	2.5	7
	5	9		120	2	Spironolactone ³	12.5	7
	10	4		160	13		25	16
	15	2		320	1		50	1
			Calcium channel blockers				100	1
			Amlodipine	2.5	7			
				5	45			
				10	25			

*Either as monotherapies (1 drug) or polytherapies (combined with up to 3 other antihypertensives). ¹Vasodilating beta-blockers; ²thiazide(-like) diuretics; ³potassium-sparing diuretics; ⁴loop diuretics.

Table S2. Differences in blood pressure (BP) variables between untreated participants and those on beta-blocker or diuretic monotherapies¹

Monotherapy	N	Brachial systolic BP (mmHg)	Brachial DBP (mmHg)	Aortic systolic BP (mmHg)	Augmentation index	log _e (excess pressure integral (mmHg.s))	Backward pressure amplitude (mmHg)	Reflection index (x 10 ⁻³)	Pulse wave velocity (m/s)
Beta-blockers									
<i>All</i> [†]	134	-13.4 (1.5)*	-5.8 (0.9)*	-12.2 (1.4)*	0.8 (1.0)	-0.03 (0.03)	-1.4 (0.5)*	9.7 (3.0)*	-0.6 (0.1)*
Non-vasodilating	129	-13.0 (1.5)*	-5.8 (0.9)*	-11.7 (1.4)*	0.8 (1.0)	-0.02 (0.03)	-1.2 (0.5)*	11.1 (3.0)*	-0.5 (0.1)*
Diuretics									
<i>All</i> [‡]	86	-11.5 (1.8)*	-4.0 (1.1)*	-11.0 (1.7)*	-3.7 (1.2)*	-0.15 (0.04)*	-2.6 (0.7)*	-1.2 (3.6)	-0.4 (0.1)*
Thiazide(-like)	68	-11.1 (2.0)*	-3.5 (1.2)*	-10.1 (1.9)*	-2.6 (1.4)*	-0.14 (0.04)*	-2.7 (0.7)*	-1.6 (4.0)	-0.4 (0.1)*
Loop + thiazide(-like)	78	-11.7 (1.9)*	-4.0 (1.1)*	-10.9 (1.8)*	-3.3 (1.3)*	-0.14 (0.04)*	-2.7 (0.7)*	-2.1 (3.8)	-0.4 (0.1)*
Potassium-sparing + thiazide(-like)	75	-10.8 (1.9)*	-3.6 (1.1)*	-10.3 (1.8)*	-2.9 (1.3)*	-0.14 (0.04)*	-2.5 (0.7)*	-0.4 (3.8)	-0.4 (0.1)*

¹Values are differences in means (standard error) compared to untreated (adjusted for age, sex and ethnicity). *Significantly different to that of untreated hypertensives. [†]Vasodilating and non-vasodilating beta-blockers. [‡]Thiazide(-like), loop and potassium-sparing diuretics.

Table S3. Differences[†] in blood pressure (BP) variables between participants on β -blockers (all or non-vasodilating beta-blockers) and those on drugs from other antihypertensive classes

Comparison group		Reference group (β B regimens)	BP variable	Beta-blockers included in analyses	
				All [‡]	Non-vasodilating
CCB regimens	CCB or CCB + ACEI or CCB + D or CCB + D + ACEI	β B or β B + ACEI or β B + D or β B + D + ACEI		N=343	N=320
			bSBP	-0.1 (1.4)	-0.5 (1.4)
			bDBP	-0.3 (0.8)	-0.7 (0.8)
			aSBP	-1.9 (1.4)	-2.6 (1.4)
			AIx	-4.1 (0.9)*	-4.4 (0.9)*
			log _e (EPI)	-0.10 (0.03)*	-0.11 (0.3)*
			Pb	-2.1 (0.5)*	-2.2 (0.5)*
			RI	-19.3 (2.6)*	-19.5 (2.6)*
			PWV	0.0 (0.1)	-0.0 (0.1)
			HR	6.8 (0.8)*	7.3 (0.8)*
			SEP	-12.7 (2.1)*	-14.3 (2.1)*
DD	-90.0 (11.6)*	-95.1 (11.7)*			
ACEI regimens	ACEI or ACEI + D	β B or β B + D		N=188	N=178
			bSBP	-0.9 (1.5)	-1.0 (1.6)
			bDBP	-0.3 (0.8)	-0.7 (0.8)
			aSBP	-1.8 (1.5)	-2.2 (1.5)
			AIx	-4.3 (0.9)*	-4.6 (1.0)*
			log _e (EPI)	-0.12 (0.03)*	-0.12 (0.03)*
			Pb	-1.7 (0.5)*	-2.0 (0.5)*
			RI	-14.0 (2.8)*	-15.7 (2.8)*
			PWV	-0.0 (0.1)	-0.0 (0.1)
			HR	5.1 (0.9)*	5.8 (0.9)*
			SEP	-13.9 (2.2)*	-15.1 (2.2)*
DD	-73.3 (12.0)*	-80.7 (12.1)*			
D regimens	D or D + ACEI or D + CCB + ACEI	β B or β B + ACEI or β B + CCB + ACEI		N=250	N=239
			bSBP	1.0 (1.5)	0.8 (1.6)
			bDBP	-0.3 (0.8)	-0.7 (0.8)
			aSBP	-0.2 (1.5)	-0.5 (1.5)
			AIx	-4.5 (1.0)*	-4.4 (1.0)*
			log _e (EPI)	-0.09 (0.03)*	-0.09 (0.03)*
			Pb	-1.5 (0.5)*	-1.6 (0.5)*
			RI	-14.4 (2.6)*	-15.4 (2.6)*
			PWV	0.1 (0.1)	0.1 (0.1)
			HR	5.6 (0.9)*	5.8 (0.9)*
			SEP	-13.7 (2.2)*	-14.6 (2.3)*
DD	-72.3 (12.2)*	-74.8 (12.3)*			
ARB regimens	ARB or ARB + D	β B or β B + D		N=188	N=178
			bSBP	3.4 (2.1)	3.3 (2.1)
			bDBP	-0.3 (0.8)	-0.7 (0.8)
			aSBP	2.0 (2.0)	1.7 (2.0)
			AIx	-5.8 (1.3)*	-6.1 (1.3)*
			log _e (EPI)	-0.13 (0.05)*	-0.14 (0.05)*
			Pb	-1.3 (0.8)	-1.5 (0.8)*
			RI	-16.5 (3.8)*	-18.0 (3.8)*
			PWV	0.2 (0.1)	0.2 (0.1)
			HR	9.0 (1.2)*	10.0 (1.1)*
			SEP	-21.6 (3.1)*	-22.9 (3.1)*
DD	-121.8 (16.9)*	-128.5 (16.7)*			

[†]Comparison group minus reference group. Values in parentheses are standard errors. [‡]Vasodilating and non-vasodilating beta-blockers. *P<0.05. bSBP=brachial systolic BP (mmHg); bDBP=brachial diastolic BP (mmHg); aSBP=aortic systolic blood pressure (mmHg); AIx=augmentation index; EPI=excess pressure integral (mmHg.s); Pb=backward pressure (mmHg); RI=Reflection index ($\times 10^{-3}$); PWV=pulse wave velocity (m/s); HR=heart rate (beats/min); SEP=systolic ejection period (ms); DD=diastolic duration (ms); ACEI=ACE inhibitor; ARB=angiotensin receptor blocker; β B=beta-blocker; CCB=calcium channel blocker; D=diuretic.

Table S4. Differences[†] in blood pressure (BP) variables between participants on beta-blockers and those on diuretics from other antihypertensive classes

Comparison group (diuretic regimens)	Reference group (βB regimens)	BP variable	Diuretics included in analyses			
			All (n=393)	Thiazide (-like) (n=352)	Loop + thiazide (-like) (n=377)	Potassium- sparing + thiazide(-like) (n=364)
D or	βB or	bSBP	1.0 (1.5)	2.0 (1.6)	1.6 (1.6)	1.7 (1.6)
D + ACEI or	βB + ACEI or	bDBP	1.0 (0.8)	1.3 (0.9)	1.1 (0.8)	1.2 (0.9)
D + CCB + ACEI	βB + CCB + ACEI	aSBP	-0.2 (1.5)	0.8 (1.6)	0.4 (1.5)	0.4 (1.5)
		AIx	-4.5 (1.0)*	-4.2 (1.0)*	-4.2 (1.0)*	-4.3 (1.0)*
		log _e (EPI)	-0.09 (0.03)*	-0.07 (0.03)*	-0.08 (0.03)*	-0.08 (0.03)*
		Pb	-1.5 (0.5)*	-1.3 (0.5)*	-1.3 (0.5)*	-1.4 (0.5)*
		RI	-14.4 (2.6)*	-15.4 (2.7)*	-14.8 (2.7)*	-15.1 (2.7)*
		PWV	0.1 (0.1)	0.12 (0.07)	0.11 (0.07)	0.11 (0.07)
		HR	5.6 (0.9)*	5.4 (0.9)*	5.5 (0.9)*	5.6 (0.9)*
		SEP	-13.7 (2.2)*	-12.7 (2.2)*	-12.6 (2.2)*	-13.2 (2.3)*
		DD	-72.3 (12.2)*	-72.1 (12.4)*	-72.2 (12.2)*	-73.1 (12.3)*

[†]Comparison group minus reference group. Values in parentheses are standard errors.

[‡]Thiazide(-like), loop and potassium-sparing diuretics. *P<0.05. bSBP=brachial systolic BP (mmHg); bDBP=brachial diastolic BP (mmHg); aSBP=aortic systolic blood pressure (mmHg); AIx=augmentation index; EPI=excess pressure integral (mmHg.s); Pb=backward pressure (mmHg); RI=Reflection index (x 10⁻³); PWV=pulse wave velocity (m/s); HR=heart rate (beats/min); SEP=systolic ejection period (ms); DD=diastolic duration (ms); ACEI=ACE inhibitor; βB=beta-blocker; CCB=calcium channel blocker; D=diuretic.