

Clinical trials of anti hypertensive agents for hypertension in elderly (60 years and more)

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1 angiotensin-converting enzyme inhibitors

Trial	Treatments	Patients	Trials design and methods
various ACEI vs calcium-channel blocker			
STOP-2 (ACEI vs felodipine or isradipine) , 1999 n=2205/2196 follow-up: 50 y	Enalapril or lisinopril , enalapril 10 mg or lisinopril 10 mg daily versus felodipine 2.5 mg or isradipine 2-5 mg daily	patients aged 70-84 years with hypertension (blood pressure \geq 180 mm Hg systolic, \geq 105 mm Hg diastolic, or both)	Parallel groups Open Sweden
various ACEI vs diuretic or beta-blocker			
STOP 2 (ACEI vs diuretic or beta-blocker) , 1999 n=2205/2213 follow-up: 5.0 y	enalapril 10 mg or lisinopril 10 mg daily versus conventional antihypertensive drugs (atenolol 50 mg, metoprolol 100 mg, pindolol 5 mg, or hydrochlorothiazide 25 mg plus amiloride 25 mg daily)	patients aged 70-84 years with hypertension (blood pressure $>$ 180 mm Hg systolic, $>$ 105 mm Hg diastolic, or both).	Parallel groups Open Sweden
enalapril vs diuretics			
ANBP2 , 2003 n=3044/3039 follow-up: 4.1 y	enalapril versus hydrochlorothiazide	subjects with hypertension 65 to 84 years	Parallel groups open Australia

References

STOP-2 (ACEI vs felodipine or isradipine), 1999:

Hansson L, Lindholm LH, Ekblom T, Dahlöf B, Lanke J, Schersten B, Wester PO, Hedner T, de Faire U Randomised trial of old and new antihypertensive drugs in elderly patients: cardiovascular mortality and morbidity the Swedish Trial in Old Patients with Hypertension-2 study. *Lancet* 1999 Nov 20;354:1751-6 [[10577635](#)]

STOP 2 (ACEI vs diuretic or beta-blocker), 1999:

Hansson L, Lindholm LH, Ekblom T, Dahlöf B, Lanke J, Schersten B, Wester PO, Hedner T, de Faire U Randomised trial of old and new antihypertensive drugs in elderly patients: cardiovascular mortality and morbidity the Swedish Trial in Old Patients with Hypertension-2 study. *Lancet* 1999 Nov 20;354:1751-6 [[10577635](#)]

ANBP2, 2003:

Wing LM, Reid CM, Ryan P, Beilin LJ, Brown MA, Jennings GL, Johnston CI, McNeil JJ, Macdonald GJ, Marley JE, Morgan TO, West MJ A comparison of outcomes with angiotensin-converting-enzyme inhibitors and diuretics for hypertension in the elderly. *N Engl J Med* 2003;348:583-92 [[12584366](#)]

2 beta-blockers

Trial	Treatments	Patients	Trials design and methods
atenolol vs placebo			
MRC old (vs placebo) , 1992 n=1102/2213 follow-up: 5.8y	Atenolol versus Placebo	patients aged 65-74	double blind UK
atenolol vs hydrochlorothiazide+amiloride			
MRC old (vs diuretics) , 1992 n=1102/1081 follow-up: 58y	Atenolol versus Hydrochlorothiazide/amiloride	hypertensive patients aged 65-74	double blind UK

References

MRC old (vs placebo), 1992:

Medical Research Council trial of treatment of hypertension in older adults: principal results. MRC Working Party. BMJ 1992 Feb 15;304:405-12 [[1445513](#)]

MRC old (vs diuretics), 1992:

Medical Research Council trial of treatment of hypertension in older adults: principal results. MRC Working Party. BMJ 1992;304:405-12 [[1445513](#)]

3 calcium-channel blockers

Trial	Treatments	Patients	Trials design and methods
nitrendipine vs placebo			
SYST-EUR , 1997 n=2398/2297 follow-up: 26y	nitrendipine 10-40 mg daily , nitrendipine 10-40 mg daily versus placebo	HBP, >=60 years	Parallel groups Double aveugle 23 countries across Europe
nifedipine vs atenolol+chlorthalidone			
Castel , 1994 n=146/205 follow-up:	Nifedipine 20mg/d versus Clonidine 0.15mg/d (n=61) or atenolol 100mg/d + chlorthalidone 25mg/d	-	
lacidipine vs chlorthalidone			
SHELL , 2003 n=NA follow-up: 36?y	lacidipine 4 mg/d versus chlorthalidone 12.5 mg/d	elderly patients with isolated systolic hypertension >or = 60 years	
felopidine or isradipine vs diuretic or beta-blocker			
STOP-2 (CCB vs diuretic or beta-blocker) , 1999 n=2196/2213 follow-up: up to 6 years	felopidine 25 mg or isradipine 25 mg daily versus conventional antihypertensivedrugs (atenolol 50 mg, metoprolol 100 mg,pindolol 5 mg, or hydrochlorothiazide 25 mg plus amiloride2.5 mg daily	patients aged 7084 years with hypertension (blood pressure >180 mm Hg systolic, >105 mm Hg diastolic, or both).	Parallel groups Open
nicardipine vs trichlormethiazide			

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Trial	Treatments	Patients	Trials design and methods
NICS-EH , 1999 n=215/214 follow-up: 4.5 years	Nicardipine SR 20mg twice daily versus trichlormethiazide 2mg once daily	>=60 years of age with systolic blood pressure of 160 to 220 mm Hg and diastolic blood pressure <115 mm Hg	Parallel groups Double blind

References

SYST-EUR, 1997:

Staessen JA, Fagard R, Thijs L, Celis H, Arabidze GG, Birkenhager WH, Bulpitt CJ, de Leeuw PW, Dollery CT, Fletcher AE, Forette F, Leonetti G, Nachev C, O'Brien ET, Rosenfeld J, Rodicio JL, Tuomilehto J, Zanchetti A Randomised double-blind comparison of placebo and active treatment for older patients with isolated systolic hypertension. The Systolic Hypertension in Europe (Syst-Eur) Trial Investigators. *Lancet* 1997 Sep 13;350:757-64 [[9297994](#)]

Castel, 1994:

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Malacco E, Mancina G, Rappelli A, Menotti A, Zuccaro MS, Coppini A Treatment of isolated systolic hypertension: the SHELL study results. *Blood Press* 2003;12:160-7 [[12875478](#)]

STOP-2 (CCB vs diuretic or beta-blocker), 1999:

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NICS-EH, 1999:

Randomized double-blind comparison of a calcium antagonist and a diuretic in elderly hypertensives. National Intervention Cooperative Study in Elderly Hypertensives Study Group. *Hypertension* 1999 Nov;34:1129-33 [[10567194](#)]

4 diuretics

Trial	Treatments	Patients	Trials design and methods
vs			
HYVET pilot , 2003 n=426/426 follow-up: 1.1y	bendroflumethiazide versus no treatment	patients older than 80 years and with a sustained blood pressure of 160-219/90-109 mmHg	Parallel groups Open 10 European countries
indapamide vs placebo			
HYVET , 2008 [NCT00122811] n=1933/1912 follow-up: 1.8y (median)	indapamide sustained release 1.5 mg/d + perindopril 2-4mg/d to obtain SBP<150 and DBP<80 versus placebo	patients 80 years or older with persistent hypertension defined as a sustained systolic BP of 160 mm Hg or higher	Parallel groups Double blind Western and Eastern Europe, China, Australasia, and North Africa

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HYVET, 2008:

Beckett NS, Peters R, Fletcher AE, Staessen JA, Liu L, Dumitrascu D, Stoyanovsky V, Antikainen RL, Nikitin Y, Anderson C, Belhani A, Forette F, Rajkumar C, Thijs L, Banya W, Bulpitt CJ Treatment of Hypertension in Patients 80 Years of Age or Older. N Engl J Med 2008 Mar 31;: [[18378519](#)]

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TrialResults-center is continually updated on a weekly basis. We continually search all new results (whatever their publication channel) and these news results are immediately added to the database with a maximum of 1 week.

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