

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

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## 1 angiotensin-converting enzyme inhibitors

Trial	Treatments	Patients	Trials design and methods
<b>various ACEI vs calcium-channel blocker</b>			
<b>STOP-2 (vs felodipine or isradipine) , 1999</b> 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
<b>various ACEI vs diuretic or beta-blocker</b>			
<b>STOP 2 (vs conventional drugs) , 1999</b> 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
<b>enalapril vs diuretics</b>			
<b>ANBP2 , 2003</b> 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 (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 (vs conventional drugs), 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
<b>atenolol vs placebo</b>			
MRC old (vs placebo) , 1992 n=1102/2213 follow-up: 5.8y	Atenolol versus Placebo	patients aged 65-74	double blind UK
<b>atenolol vs hydrochlorothiazide+amiloride</b>			
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
<b>nitrendipine vs placebo</b>			
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
<b>nifedipine vs atenolol+chlorthalidone</b>			
Castel , 1994 n=146/205 follow-up:	Nifedipine 20mg/d versus Clonidine 0.15mg/d (n=61) or atenolol 100mg/d + chlorthalidone 25mg/d	-	
<b>lacidipine vs chlorthalidone</b>			
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	
<b>felodipine or isradipine vs diuretic or beta-blocker</b>			
STOP 2 (vs diuretic or beta-blocker) , 1999 n=2196/2213 follow-up: up to 6 years	felodipine 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
<b>nicardipine vs trichlormethiazide</b>			

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Trial	Treatments	Patients	Trials design and methods
<b>NICS-EH , 1999</b> 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:

Casiglia E, Spolaore P, Mazza A, Ginocchio G, Colangeli G, Onesto C, Di Menza G, Pegoraro L, Ambrosio GB Effect of two different therapeutic approaches on total and cardiovascular mortality in a Cardiovascular Study in the Elderly (CASTEL). *Jpn Heart J* 1994;35:589-600 [[7830324](#)]

### SHELL, 2003:

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 (vs diurectic 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](#)]

### 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
<b>indapamide vs placebo</b> <b>HYVET , 2008</b> [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

## References

### 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](#)]

## 5 About TrialResults-center.org

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The TrialResults-center database provides a unique view of the treatment efficacy based on all data provided directly from clinical trial results, offering a valuable alternative to personal bibliographic search, published meta-analysis, etc. Furthermore, it would allow comparing easily the various concurrent therapeutic for the same clinical condition.

Rigorous meta-analysis method is used to populate TrialResults-center: widespread search of published and non published trials, study selection using pre-specified criteria, data extraction using standard form.

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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