

Clinical trials of angiotensin-Converting Enzyme Inhibitors for heart failure in all type of heart failure

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1 Angiotensin-Converting Enzyme Inhibitors

Trial	Treatments	Patients	Trials design and methods
vs control			
Uprichard-a , 1994 <i>unpublished</i> n=114/110 follow-up:	-	-	
Uprichard-b , 1994 <i>unpublished</i> n=105/103 follow-up:	-	-	
Uprichard-c , 1994 <i>unpublished</i> n=139/47 follow-up:	-	-	
benazepril vs control			
McGany , 1991 <i>unpublished</i> n=29/32 follow-up:	-	-	
enalapril vs control			
Enalapril CHF investigators , 1987 n=126/130 follow-up:	-	-	
Rucinska-a (enalapril) , 1991 <i>unpublished</i> n=67/65 follow-up:	-	-	
Rucinska-b (enalapril) , 1991 <i>unpublished</i> n=55/55 follow-up:	-	-	
lisinopril vs control			
Giles , 1990 n=130/63 follow-up:	-	-	

continued...

Trial	Treatments	Patients	Trials design and methods
Rucinska-c (lisinopril) <i>unpublished</i> n=28/30 follow-up:	-	-	
Zwehl , 1990 n=183/92 follow-up:	-	-	
ramipril vs control			
Swedberg , 1991 n=115/108 follow-up:	-	-	
vs placebo			
Northridge , 1991 n=32/32 follow-up: 8 weeks	quinapril 20mg/d versus placebo	patient with mild heart failure	Cross over double blind
Nussberger , 1994 n=55 follow-up: 12 weeks	quinapril (2.5, 5 or 10 mg b.i.d.) versus placebo	patients with moderate heart failure (ejection fraction <or = 35%)	Parallel groups double blind Switzerland, Germany
Quinapril Heart Failure Trial Investigators , 1993 n=114/110 follow-up: 16 weeks	quinapril versus placebo	patients with New York Heart Association class II or III heart failure	Parallel groups double blind
Rieger , 1991 n=225 follow-up: 12 weeks	quinapril 10, 20, or 40 mg/d versus placebo	patients with mild to moderate heart failure	double blind
Riegger , 1990 n=169/56 follow-up: 12 weeks	quinapril (5mg bid, 10 mg bid, 20mg bid) versus placebo	patients with mild to moderate congestive heart failure (CHF) due to arterial hypertension and ischemic heart disease	double-blind
benazepril vs placebo			
Colfer , 1992 n=114/58 follow-up: 12-week	benazepril titrated up to 20mg daily versus placebo	Patients with chronic New York Heart Association class II to IV symptoms of CHF and an ejection fraction by radionuclide scanning of less than or equal to 35%	double blind US
captopril vs placebo			
Barabino , 1991 n=52/49 follow-up: 6 months	captopril (37.5-75 mg/day) versus placebo	old patients (>75y) under treatment with digitalis and/or diuretics	double blind
Bussmann , 1987 n=12/11 follow-up: 6 months	captopril versus placebo	patients with severe heart failure (NYHA classes III and IV) on treatment with digitalis and diuretics	Parallel groups double blind
Captopril Digoxin Multicenter Research Group , 1988 n=104/100 follow-up:	captopril versus placebo	patients with mild to moderate heart failure	double blind

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Trial	Treatments	Patients	Trials design and methods
Cilazapril-Captopril Multi-centre Group (capt vs pbo) , 1995 n=108/114 follow-up: 12 weeks	cilazapril 1-2.5 mg once daily versus placebo	patients with chronic heart failure (New York Heart Association classes II-IV)	Parallel groups double blind
CMRG , 1983 n=50/42 follow-up: 12 weeks	captopril versus placebo	patients with heart failure refractory to digitalis and diuretic therapy	double blind
Magnani , 1986 n=48/46 follow-up: 1 year	captopril 25 mg t.i.d. versus placebo	patients on digitalis treatment for chronic congestive heart failure (NYHA class II-III)	double blind
Magnani , 1990 n=16/16 follow-up:	captopril versus placebo	patients with congestive heart failure	Cross over double blind
Munich MHFT (Kleber) , 1992 n=83/87 follow-up: 2.7y (median)	captopril 25 mg twice a day versus placebo	patients with congestive heart failure New York Heart Association (NYHA) functional class I-III on standard treatment	Parallel groups Double blind Germany
cilazapril vs placebo			
Cilazapril-Captopril Multi-centre Group , 1995 n=221/114 follow-up: 12 weeks	cilazapril 1-2.5 mg once daily versus placebo	patients with chronic heart failure (New York Heart Association classes II-IV)	Parallel groups double blind
Dosseger , 1993 n=7/35 follow-up: 12 weeks	cilazapril titrated up to 2.5 mg/d versus placebo	patients with chronic heart failure (NYHA class II to IV) stabilized on digitalis and/or diuretics	double blind
Drexler , 1989 n=11/10 follow-up: 3 months	cilazapril versus placebo	patients with chronic heart failure	double blind
enalapril vs placebo			
CASSIS (enalapril) , 1995 n=48/48 follow-up: 12 weeks	enalapril 5-10mg daily versus placebo	patients with chronic congestive heart failure of NYHA classes II-IV	Parallel groups double blind
Chrysant , 1985 n=NA follow-up: 14 weeks	enalapril versus placebo	patients with congestive heart failure (CHF), New York Heart Association class II-III	double blind
Cleland , 1985 n=10/10 follow-up: 8 weeks	enalapril titrated up to 40mg once daily versus placebo	patients with New York Heart Association functional class II to IV heart failure who were clinically stable on digoxin and diuretic therapy	Cross over double blind
CONSENSUS , 1987 n=127/126 follow-up: 188 days	enalapril (2.5 to 40 mg per day) versus placebo	severe congestive heart failure (New York Heart Association [NYHA] functional class IV)	Parallel groups double blind Finland, Sweden, Norway

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Trial	Treatments	Patients	Trials design and methods
Dickstein , 1991 n=20/21 follow-up: 48 weeks	enalapril versus placebo	men with symptomatic heart failure (functional class II or III) and documented myocardial infarction greater than 6 months previously	double blind
McGrath , 1985 n=13/12 follow-up: 12 week	enalapril versus placebo	patients with chronic congestive cardiac failure	double blind
Sharpe , 1984 n=18/18 follow-up: 3 months	enalapril 5mg twice day versus placebo	patients with New York Heart Association functional class II to III heart failure who were clinically stable on digoxin and diuretic therapy	double blind
SOLVD prevention , 1992 [NCT00000516] n=2111/2117 follow-up: 3.1 y	Enalapril initial dose 25 or 5 mg twice daily up to 10 mg twice daily versus placebo	MI >1 month, No treatment for CHF, LVEF <=35%	Parallel groups double blind
SOLVD treatment , 1991 [NCT00000516] n=1285/1284 follow-up: 3.5 y	Enalapril initial dose 25 or 5 mg twice daily up to 10 mg twice daily versus placebo	MI >1 month, Congestive HF, LVEF <=35%	Parallel groups Double blind
fosinopril vs placebo			
Brown , 1995 n=116/125 follow-up: 24 weeks	fosinopril 10 or 20 mg/day versus placebo	patients with chronic congestive heart failure (NYHA II-III) not taking digitalis	double blind
FEST (Erhardt) , 1996 n=155/153 follow-up: 12 weeks	fosinopril 40 mg once daily titrated versus placebo	patients with mild to moderately severe heart failure (NYHA II-III)	double blind
lisinopril vs placebo			
Gilbert , 1993 n=14/14 follow-up: 12 weeks	lisinopril versus placebo	subjects with heart failure	Cross over double blind
International Study Group (Lewis) , 1989 n=87/43 follow-up: 12 weeks	lisinopril titrated up to 10mg daily versus placebo	patients with congestive heart failure NYHA II-IV	Parallel groups double blind New Zealand
perindopril vs placebo			
Lechat , 1993 n=61/64 follow-up: 3-month	perindopril, 2 mg once daily versus placebo	patients with grade II or III New York Heart Association chronic congestive heart failure on baseline diuretic therapy	double blind
PEP CHF , 2006 n=424/426 follow-up: 26.2 months (range 12-54.2m)	perindopril, 4 mg/day versus placebo	patients aged >=70 years with a diagnosis of heart failure, treated with diuretics and an echocardiogram suggesting diastolic dysfunction and excluding substantial LV systolic dysfunction or valve disease	Parallel groups double blind Europe

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Trial	Treatments	Patients	Trials design and methods
ramipril vs placebo			
Gordon , 1991 <i>unpublished</i> n=94/98 follow-up: 12 weeks	ramipril 10mg/d versus placebo	patients with herat failure and LVFE<=35%	Parallel groups double blind USA
Gundersen , 1994 n=104/91 follow-up: 12 weeks	ramipril titrated from 1.25 mg to a maximum of 10 mg once daily versus placebo	patients with NYHA II-III CHF, LVFE<=40% and size of the heart >600ml/m2 for mean or >550ml/m2 for women	Parallel groups double blind four Nordic countries
Lemarie , 1992 <i>unpublished</i> n=42/43 follow-up: 24 weeks	ramipril 2.5mg twice daily versus placebo	patient with NYHA II-III heart failure	Parallel groups double blind France
Maass-a , 1991 <i>unpublished</i> n=87/45 follow-up:	ramipril versus placebo	patients with heart failure	
Maass-b , 1991 <i>unpublished</i> n=329/171 follow-up: 12 weeks	ramipril 5 or 10 mg once daily versus placebo	patient with NYHA II-III heart failure and LVFE<=40%	Parallel groups double blind Europe
Maass-c , 1991 <i>unpublished</i> n=47/48 follow-up: 12 weeks	ramipril 10mg once daily versus placebo	patient with heart failure with LVFE<=35%	Parallel groups double blind
spirapril vs placebo			
CASSIS (spirapril) , 1995 n=-948/48 follow-up: 12 weeks	spirapril 1.5 mg, 3 mg, 6 mg daily versus placebo	patients with chronic congestive heart failure of NYHA classes II-IV	Parallel groups double blind
trandolapril vs placebo			
Hampton , 1998 n=144/148 follow-up: 16 weeks	trandolapril titrated up to 4mg/d versus placebo	patients with moderate (New York Heart Association Grades II and III) heart failure	double blind
cilazapril vs captopril			
Cilazapril-Captopril Multi-centre Group (cila vs capt) , 1995 n=221/108 follow-up: 12 weeks	cilazapril 1-2.5 mg once daily versus captopril 25-50mg three times daily	patients with chronic heart failure (New York Heart Association classes II-IV)	Parallel groups double blind
captopril vs enalapril			
packer , 1986 n=21/21 follow-up: 1-3 months	captopril 150 mg/d versus enalapril 40mg/d	patient with severe chronic heart failure	Parallel groups open
enalapril vs enalapril			

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Trial	Treatments	Patients	Trials design and methods
NETWORK (2.5 bid vs 10 bid) , 1998 n=506/516 follow-up: 6 months	enalapril 2.5 mg twice daily versus enalapril 10 mg twice daily	patients with NYHA II-IV heart failure	Parallel groups double blind UK
NETWORK (5 bid vs 10 bid) , 1998 n=510/516 follow-up: 6 months	enalapril 5 mg twice daily versus enalapril 10 mg twice daily	patients with NYHA II-IV heart failure	Parallel groups double blind UK
enalapril vs hydralazine+ISDN			
V-HeFT II , 1991 n=403/401 follow-up: 2.5y (range 0.5-5.7y)	enalapril 20mg daily versus hydralazine 300 mg plus isosorbide dinitrate 160 mg daily	men with chronic congestive heart failure and cardiac dilatation (CT ratio>0.55) or LVEF <45% in association with reduced exercise tolerance and diuretic therapy	Parallel groups double blind
lisinopril vs lisinopril			
ATLAS , 1999 n=1596/1568 follow-up: 39 to 58 months	lisinopril low dose 2.5-5 mg daily versus lisinopril high dose 32.5-35 mg daily	patients with New York Heart Association class II to IV heart failure and an ejection fraction ≤30%	Parallel groups double blind 19 countries

References

Uprichard-a, 1994:

Uprichard k. A 16-Week Double Blind, Placebo-Randomized Placebo Controlled Multicenter Trial to Evaluate the Effects of Withdrawal of Quinapril Hydrochloride on Exercise Tolerance in Patients With Mild to Moderate Congestive Heart Failure (906-276) Ann Arbor, Mich: Parke-Davis Pharmaceutical Research; April 1994. Unpublished report

Uprichard-b, 1994:

Uprichard A. An 18-Week Double Blind, Optional Titration, Multicenter Study to Compare the Efficacy and Safety of Orally Administered Quinapril Hydrochloride With Captopril and Placebo in Patients With Congestive Heart, Failure (908-226). Ann Arbor, Mich: Parke-Davis Pharmaceutical Research; April 1994. Unpublished report

Uprichard-c, 1994:

Uprichard A. A 12-Week Double Blind, Placebo Controlled Study to Determine the Efficacy and Safety of Orally Administered Quinapril Hydrochloride in Patients With Congestive Heart Failure (906-63). Ann Arbor, Mich: Parke-Davis Pharmaceutical Research; April 1994. Unpublished report.

McGany, 1991:

McGarry R. Randomized, Double Blind, Multicenter Study Comparing Benazepril to Digoxin and to Placebo as Add On Therapy to Diuretic in Patients With CHF, NYHA Class II-III During a 12-Week Treatment Period, GHBA-1H. Summit, NJ: Ciba-Geigy Pharmaceuticals; September 1991. Unpublished report.

Enalapril CHF investigators, 1987:

Enalapril CHF Investigators Long-term effects of enalapril in patients with congestive heart failure: a multicenter, placebo-controlled trial. Heart Failure. 1987;3:102-107

Rucinska-a (enalapril), 1991:

Rucinska-b (enalapril), 1991:

Giles, 1990:

Giles TD, for Lisinopril Chronic Heart Failure Group Lisinopril treatment of congestive heart failure-results of a placebo controlled trial. Circulation. 1990;82(suppl 4):III-323. Abstract

Rucinska-c (lisinopril), 1000:

Zwehl, 1990:

Zwehl W, Rucinska E, for Lisinopril Chronic Heart Failure Investigators Long-term effects of lisinopril in patients with chronic heart failure: a multicenter, placebo-controlled trial. In: Nicholls MG, ed. A Focus on the Clinical Effects of a Long Acting ACE-Inhibitors/Heart Failure. New York, NY: Raven Press; 1990:31-40

Swedberg, 1991:

Swedberg K, Amtorp O, Gundersen T, Remes J, Nilsson B. Is maximal exercise testing a useful method to evaluate treatment of moderate heart failure? *Circulation*. 1991;57:226. Abstract

Northridge, 1991:

Northridge DB, Rose E, Elder A, et al. A multicenter, double-blind, placebo-controlled trial of quinapril in mild chronic heart failure. *Eur Heart J*. 1991;12(suppl):184. Abstract.

Northridge DB, Rose E, Raftery ED, Lahiri A, Elder AT, Shaw TR, Henderson E, Dargie HJ A multicentre, double-blind, placebo-controlled trial of quinapril in mild, chronic heart failure. *Eur Heart J* 1993;14:403-9 [[8458362](#)]

Nussberger, 1994:

Nussberger J, Fleck E, Bahrmann H, Delius W, Schultheiss HP, Brunner HR Dose-related effects of ACE inhibition in man: quinapril in patients with moderate congestive heart failure. The Study Group on Neurohormonal Regulation in Congestive Heart Failure: Lausanne, Switzerland; Berlin, Dsseldorf, Munich, Germany. *Eur Heart J* 1994;15 Suppl D:113-22 [[7713100](#)]

Quinapril Heart Failure Trial Investigators, 1993:

Pflugfelder PW, Baird MG, Tonkon MJ, DiBianco R, Pitt B Clinical consequences of angiotensin-converting enzyme inhibitor withdrawal in chronic heart failure: a double-blind, placebo-controlled study of quinapril. The Quinapril Heart Failure Trial Investigators. *J Am Coll Cardiol* 1993;22:1557-63 [[8227822](#)]

Rieger, 1991:

Rieger GA Effects of quinapril on exercise tolerance in patients with mild to moderate heart failure. *Eur Heart J* 1991;12:705-11 [[1830551](#)]

Rieger, 1990:

Rieger GA The effects of ACE inhibitors on exercise capacity in the treatment of congestive heart failure. *J Cardiovasc Pharmacol* 1990;15 Suppl 2:S41-6 [[1691406](#)]

Colfer, 1992:

Colfer HT, Ribner HS, Gradman A, Hughes CV, Kapoor A, Laidlaw JC Effects of once-daily benazepril therapy on exercise tolerance and manifestations of chronic congestive heart failure. The Benazepril Heart Failure Study Group. *Am J Cardiol* 1992 Aug 1;70:354-8 [[1632402](#)]

Barabino, 1991:

Barabino A, Galbariggi G, Pizzorni C, Lotti G Comparative effects of long-term therapy with captopril and ibopamine in chronic congestive heart failure in old patients. *Cardiology* 1991;78:243-56 [[1868502](#)]

Bussmann, 1987:

Bussmann WD, Strger H, Hadler D, Reifart N, Fassbinder W, Jungmann E, Kaltenbach M Long-term treatment of severe chronic heart failure with captopril: a double-blind, randomized, placebo-controlled, long-term study. *J Cardiovasc Pharmacol* 1987;9 Suppl 2:S50-60 [[2441202](#)]

Captopril Digoxin Multicenter Research Group, 1988:

Comparative effects of therapy with captopril and digoxin in patients with mild to moderate heart failure. The Captopril-Digoxin Multicenter Research Group. *JAMA* 1988 Jan 22-29;259:539-44 [[2447297](#)]

Cilazapril-Captopril Multi-centre Group (capt vs pbo), 1995:

Comparison of the effects of cilazapril and captopril versus placebo on exercise testing in chronic heart failure patients: a double-blind, randomized, multicenter trial. The Cilazapril-Captopril Multicenter Group. *Cardiology* 1995;86 Suppl 1:34-40 [[7614505](#)]

CMRG, 1983:

A placebo-controlled trial of captopril in refractory chronic congestive heart failure. Captopril Multicenter Research Group. *J Am Coll Cardiol* 1983;2:755-63 [[6350401](#)]

Magnani, 1986:

Magnani B, Magelli C Captopril in mild heart failure: preliminary observations of a long-term, double-blind, placebo-controlled multicentre trial. *Postgrad Med J* 1986;62 Suppl 1:153-8 [[3534852](#)]

Magnani, 1990:

Borgi C, Magelli C, Costa FV, Magnani B, Ambrosioni E Captopril improves hemodynamic response to static exercise in patients with congestive heart failure: a double-blind, placebo-controlled, randomized trial. *Clin Cardiol* 1990;13:329-34 [2189613]

Munich MHFT (Kleber), 1992:

Kleber FX, Niemller L, Doering W Impact of converting enzyme inhibition on progression of chronic heart failure: results of the Munich Mild Heart Failure Trial *Br Heart J* 1992;67:289-96 [1389702]

Cilazapril-Captopril Multi-centre Group, 1995:

Comparison of the effects of cilazapril and captopril versus placebo on exercise testing in chronic heart failure patients: a double-blind, randomized, multicenter trial. The Cilazapril-Captopril Multicenter Group. *Cardiology* 1995;86 Suppl 1:34-40 [7614505]

Dosseger, 1993:

Dosseger L, Aldor E, Baird MG, Braun S, Cleland JG, Donaldson R, Jansen LJ, Joy MD, Marin-Neto JA, Nogueira E Influence of angiotensin converting enzyme inhibition on exercise performance and clinical symptoms in chronic heart failure: a multicentre, double-blind, placebo-controlled trial. *Eur Heart J* 1993;14 Suppl C:18-23 [8365423]

Drexler, 1989:

Drexler H, Banhardt U, Meinertz T, Wollschlger H, Lehmann M, Just H Contrasting peripheral short-term and long-term effects of converting enzyme inhibition in patients with congestive heart failure. A double-blind, placebo-controlled trial *Circulation* 1989;79:491-502 [2521816]

CASSIS (enalapril), 1995:

Widimsk J, Kremer HJ, Jerie P, Uhlr O Czech and Slovak spirapril intervention study (CASSIS). A randomized, placebo and active-controlled, double-blind multicentre trial in patients with congestive heart failure. *Eur J Clin Pharmacol* 1995;49:95-102 [8751029]

Chrysant, 1985:

Chrysant SG, Gollub S, Dunn MI, Bal IS, Dreiling R, Konijeti JR Hemodynamic and metabolic effects of enalapril in patients with heart failure. *Clin Cardiol* 1985;8:585-90 [2998663]

Cleland, 1985:

Cleland JG, Dargie HJ, Ball SG, Gillen G, Hodsman GP, Morton JJ, East BW, Robertson I, Ford I, Robertson JI Effects of enalapril in heart failure: a double blind study of effects on exercise performance, renal function, hormones, and metabolic state *Br Heart J* 1985;54:305-12 [2994698]

CONSENSUS, 1987:

Effects of enalapril on mortality in severe congestive heart failure. Results of the Cooperative North Scandinavian Enalapril Survival Study (CONSENSUS). The CONSENSUS Trial Study Group. *N Engl J Med* 1987 Jun 4;316:1429-35 [2883575]

Dickstein, 1991:

Dickstein K, Barvik S, Aarsland T Effect of long-term enalapril therapy on cardiopulmonary exercise performance in men with mild heart failure and previous myocardial infarction. *J Am Coll Cardiol* 1991;18:596-602 [1856429]

McGrath, 1985:

McGrath BP, Arnolda L, Matthews PG, Jackson B, Jennings G, Kiat H, Johnston CI Controlled trial of enalapril in congestive cardiac failure. *Br Heart J* 1985;54:405-14 [2996575]

Sharpe, 1984:

Sharpe DN, Murphy J, Coxon R, Hannan SF Enalapril in patients with chronic heart failure: a placebo-controlled, randomized, double-blind study. *Circulation* 1984;70:271-8 [6329547]

SOLVD prevention, 1992:

Effect of enalapril on mortality and the development of heart failure in asymptomatic patients with reduced left ventricular ejection fractions. The SOLVD Investigators *N Engl J Med* 1992;327:685-91 [1463530]

SOLVD treatment, 1991:

Effect of enalapril on survival in patients with reduced left ventricular ejection fractions and congestive heart failure. The SOLVD Investigators *N Engl J Med* 1991;325:293-302 [2057034]

Brown, 1995:

Brown EJ Jr, Chew PH, MacLean A, Gelperin K, Ilgenfritz JP, Blumenthal M Effects of fosinopril on exercise tolerance and clinical deterioration in patients with chronic congestive heart failure not taking digitalis. Fosinopril Heart Failure Study Group. *Am J Cardiol* 1995 Mar 15;75:596-600 [7887385]

FEST (Erhardt), 1996:

Erhardt L, MacLean A, Ilgenfritz J, Gelperin K, Blumenthal M Fosinopril attenuates clinical deterioration and improves exercise tolerance in patients with heart failure. Fosinopril Efficacy/Safety Trial (FEST) Study Group. *Eur Heart J* 1995;16:1892-9 [8682023]

Gilbert, 1993:

Gilbert EM, Sandoval A, Larrabee P, Renlund DG, O'Connell JB, Bristow MR Lisinopril lowers cardiac adrenergic drive and increases beta-receptor density in the failing human heart. *Circulation* 1993 Aug;88:472-80 [8393389]

International Study Group (Lewis), 1989:

Lewis GR Comparison of lisinopril versus placebo for congestive heart failure. *Am J Cardiol* 1989 Feb 21;63:12D-16D [2537560]

Lewis GR Lisinopril versus placebo in older congestive heart failure patients. *Am J Med* 1988 Sep 23;85:48-54 [2844088]

Chalmers JP, West MJ, Cyran J, De La Torre D, Englert M, Kramar M, Lewis GR, Maranhao MF, Myburgh DP, Schuster P Placebo-controlled study of lisinopril in congestive heart failure: a multicentre study. *J Cardiovasc Pharmacol* 1987;9 Suppl 3:S89-97 [2442560]

Lechat, 1993:

Lechat P, Garnham SP, Desche P, Bounhoure JP Efficacy and acceptability of perindopril in mild to moderate chronic congestive heart failure. *Am Heart J* 1993 Sep;126:798-806 [8166887]

Bounhoure JP, Bottineau G, Lechat P, Garnham J, Lapeyre G Value of perindopril in the treatment of chronic congestive heart failure. Multicenter double-blind placebo-controlled study. *Clin Exp Hypertens A* 1989;11 Suppl 2:575-86 [2691130]

PEP CHF, 2006:

Cleland JG, Tendera M, Adamus J, Freemantle N, Gray CS, Lye M, O'Mahony D, Polonski L, Taylor J Perindopril for elderly people with chronic heart failure: the PEP-CHF study. The PEP investigators. *Eur J Heart Fail* 1999 Aug;1:211-7 [10935667]

Cleland JG, Tendera M, Adamus J, Freemantle N, Polonski L, Taylor J The perindopril in elderly people with chronic heart failure (PEP-CHF) study. *Eur Heart J* 2006 Oct;27:2338-45 [16963472]

Gordon, 1991:

Gordon M Evaluation of the Efficacy and Safety of Ramipril (HOE 498) in Patients With Congestive Heart Failure in a Placebo-Controlled Trial. Somerville, NJ: Hoechst-Roussel Pharmaceuticals; October 1991. Unpublished report

Lubsen J, Chadha DR, Yotof YT, Swedberg K Meta-analysis of morbidity and mortality in five exercise capacity trials evaluating ramipril in chronic congestive cardiac failure. *Am J Cardiol* 1996 Jun 1;77:1191-6 [8651094]

Gundersen, 1994:

Gundersen T, Swedberg K, Amtorp O, Remes J, Nilsson B Absence of effect on exercise capacity of 12-weeks treatment with ramipril in patients with moderate congestive heart failure. Ramipril Study Group. *Eur Heart J* 1994;15:1659-65 [7698136]

Lemarie, 1992:

Lemarie JC. Multicenter Double-Blind Placebo Controlled Study of the Efficacy and Safety of Ramipril Administered Orally for 24 Weeks in the Treatment of Stable Chronic Congestive Cardiac Failure. Paris, France: Laboratories Hoechst; December 1992. Unpublished report

Lubsen J, Chadha DR, Yotof YT, Swedberg K Meta-analysis of morbidity and mortality in five exercise capacity trials evaluating ramipril in chronic congestive cardiac failure. *Am J Cardiol* 1996 Jun 1;77:1191-6 [8651094]

Maass-a, 1991:

Maass L Double-Blind Comparative Trial With Ramipril and Placebo in Patients With Heart Failure (NYHA Class III-IV) Stabilized on Digitalis and Furosemides Frankfurt, Germany: Hoechst Aktiengesellschaft; October 1991. Unpublished report

Maass-b, 1991:

Maass L Efficacy and Safety of Ramipril (HOE498) in Patients With Congestive Heart Failure in a Double Blind Placebo Controlled Trial Frankfurt, Germany: Hoechst Aktiengesellschaft; October 1991. Unpublished report

Maass-c, 1991:

Maass L. Evaluation of the Effect of Ramipril (HOE 498) on Exercise Duration, Invasive Cardiac Hemodynamics Profiles, and Safety in Patients With Congestive Heart Failure. Frankfurt, Germany: Hoechst Aktiengesellschaft; October 1991. Unpublished report.

Lubsen J, Chadha DR, Yotof YT, Swedberg K Meta-analysis of morbidity and mortality in five exercise capacity trials evaluating ramipril in chronic congestive cardiac failure. *Am J Cardiol* 1996 Jun 1;77:1191-6 [[8651094](#)]

CASSIS (spirapril), 1995:

Widimsk J, Kremer HJ, Jerie P, Uhr O Czech and Slovak spirapril intervention study (CASSIS). A randomized, placebo and active-controlled, double-blind multicentre trial in patients with congestive heart failure. *Eur J Clin Pharmacol* 1995;49:95-102 [[8751029](#)]

Hampton, 1998:

Hampton JR, Cowley AJ, Wnuk-Wojnar AM Failure of an ACE inhibitor to improve exercise tolerance. A randomized study of trandolapril. Trandolapril study group. *Eur Heart J* 1998;19:1823-8 [[9886725](#)]

Cilazapril-Captopril Multi-centre Group (cila vs capt), 1995:

Comparison of the effects of cilazapril and captopril versus placebo on exercise testing in chronic heart failure patients: a double-blind, randomized, multicenter trial. The Cilazapril-Captopril Multicenter Group. *Cardiology* 1995;86 Suppl 1:34-40 [[7614505](#)]

packer, 1986:

Packer M, Lee WH, Yushak M, Medina N Comparison of captopril and enalapril in patients with severe chronic heart failure. *N Engl J Med* 1986 Oct 2;315:847-53 [[3018566](#)]

NETWORK (2.5 bid vs 10 bid), 1998:

Clinical outcome with enalapril in symptomatic chronic heart failure; a dose comparison. The NETWORK Investigators. *Eur Heart J* 1998 Mar;19:481-9 [[9568453](#)]

NETWORK (5 bid vs 10 bid), 1998:

Clinical outcome with enalapril in symptomatic chronic heart failure; a dose comparison. The NETWORK Investigators. *Eur Heart J* 1998 Mar;19:481-9 [[9568453](#)]

V-HeFT II, 1991:

Cohn JN, Johnson G, Ziesche S, Cobb F, Francis G, Tristani F, Smith R, Dunkman WB, Loeb H, Wong M A comparison of enalapril with hydralazine-isosorbide dinitrate in the treatment of chronic congestive heart failure. *N Engl J Med* 1991;325:303-10 [[2057035](#)]

ATLAS, 1999:

Packer M, Poole-Wilson PA, Armstrong PW, Cleland JG, Horowitz JD, Massie BM, Rydn L, Thygesen K, Uretsky BF Comparative effects of low and high doses of the angiotensin-converting enzyme inhibitor, lisinopril, on morbidity and mortality in chronic heart failure. ATLAS Study Group. *Circulation* 1999 Dec 7;100:2312-8 [[10587334](#)]

2 About TrialResults-center.org

TrialResults-center is an innovative knowledge database that collects the results of RCTs and provides dynamic interactive systematic reviews and meta-analysis in the field of all major heart and vessels diseases.

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.

TrialResults-center is non-profit and self-funded.