

Clinical trials of t-PA

TrialResults-center www.trialresultscenter.org

1 acute myocardial infarction

Trial	Treatments	Patients	Trials design and methods
t-PA vs placebo			
ASSET , 1988 n=2516/2495 follow-up: 6 months	rt-PA 100 mg versus Placebo	patient with suspected acute myocardial infarction	Parallel groups double blind
LATE , 1993 n=2836/2875 follow-up: 6 mo	intravenous alteplase (100 mg over 3 h) versus placebo	patients with symptoms and electrocardiographic criteria consistent with AMI between 6 and 24 h from symptom onset	Parallel groups double blind
TAMI 6 , 1992 n=96/101 follow-up: 6 months	tissue-type plasminogen activator 100 mg over 2 hours versus placebo	patients with 6 to 24 hours of symptoms and ECG ST elevation	Parallel groups double blind USA
bolus t-PA vs accelerated t-PA			
COBALT , 1997 n=3585/3584 follow-up: 30 days	of 50 mg of alteplase over a period of 1 to 3 minutes followed 30 minutes later by a second bolus of 50 mg (or 40 mg for patients who weighed less than 60 kg). versus weight-adjusted, accelerated infusion of 100 mg of alteplase	patients with acute myocardial infarction	Parallel groups double blind
accelerated t-PA vs APSAC			
TAPS , 1992 n=199/202 follow-up:	front-loaded administration of rt-PA versus APSAC	patients with acute myocardial infarction.	Parallel groups open
TIMI 4 , 1994 n=NA follow-up: hospital stay	front-loaded rt-PA versus APSAC	patients with acute myocardial infarction	double blind
accelerated t-PA vs streptokinase			

continued...

Trial	Treatments	Patients	Trials design and methods
GUSTO tPA Hiv , 1993 n=10396/20251 follow-up: 30 d	tPA acclr (15 mg en bolus, puis 0.75 mg/kg en 30 min sans dpasser 50 mg puis 0.5 mg/kg en 60 min sans dpasser 35 mg) + hparine en IV (5000 U en bolus, 1000 U/h (de prfrence 1200 U/h si >80 kg), poursuivi au moins 48 h) versus Streptokinase 1.5 MU en 60 min + hparine SC (12500 U 2 fois/j commence 4h aprs thrombolytique) combin streptokinase (1.5 MU en 60 min) + hparine en IV (5000 U en bolus, puis 1000 U/h (1200 U/h si >80 kg) poursuivi au moins 48 h)	Hommes et femmes	Parallel groups International 15 countries
t-PA vs streptokinase			
International Study Group , 1990 n=10372/10396 follow-up: 6 mo	tPA 100 mg en IV en 3 h (10 mg en bolus, puis 50 mg en 1 h, puis 20 mg/h pendant 2 h) versus Streptokinase 1.5 MU en IV de 30 60 min	patients with suspected acute myocardial infarction of less than 6 h duration	Plan factoriel 2*2 double blind
Centre Illinois , 1993 n=123/130 follow-up:	t-PA 10 mg bolus, followed by 50 mg in the first hour, and 20 mg/hour for the next 2 hours versus SK 375 000 IU bolus, followed by 1 125 000 IU/1 hage/pj	patients with AMI within 3h from onset of chest pain	Parallel groups single blind USA
Cherng , 1992 n=59/63 follow-up: hospital stay	100 mg of rTPA over 3 hours (with early heparinization) versus 1,500,000 units of streptokinase over 1 hour	patients with acute myocardial infarction	Parallel groups open Taiwan
ECSG , 1985 n=64/65 follow-up:	0.75 mg rt-PA/kg over 90 min versus 1 500 000 IU streptokinase over 60 min	patients with acute myocardial infarction of less than 6 h duration	Parallel groups single-blind Europe
GISSI II , 1990 n=6182/6199 follow-up: 6 mo	alteplase 100 mg infused intravenously over 3 h versus streptokinase 1.5 MU infused intravenously over 30-60 min	patients with acute myocardial infarction within 6 h from onset of symptoms	Plan factoriel 2*2 open International 14 countries

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Trial	Treatments	Patients	Trials design and methods
ISIS III (SK/tPA) , 1992 n=13780/13746 follow-up: 6 mo	Streptokinase 1.5 MU en IV d'une heure versus tPA 0.04 MU/kg en IV en bolus d'1 min, puis 0.36 MU/kg en 1 h, puis 0.067 MU/kg/h pendant 3 h	Hommes et femmes	Plan factoriel 3 (ou 4) *2 double blind International 17 countries
PAIMS , 1989 n=86/85 follow-up:	intravenous cumulative dose of 100 mg rt-PA versus .5 million units streptokinase	patients with acute myocardial infarction less than 3 h old	Parallel groups open Italy
TIMI-1 , 1987 [NCT00000505] n=157/159 follow-up:	rt-PA, 40, 20, and 20 mg in successive hours versus SK 1.5 million units over 1 hr	patients with evolving acute myocardial infarction within 7 hr of the onset of symptoms	Parallel groups double blind USA
White , 1989 n=135/135 follow-up:	rt-PA 100 mg over three hours versus streptokinase 1.5 million units over 30 minutes	patients with AMI	Parallel groups double blind New Zealand
t-PA + streptokinase vs streptokinase			
GUSTO tPA-SK Hiv , 1993 n=10374/20251 follow-up: 30 d	tPA en IV 1 mg/kg, sans dpasser 90 mg, dont 10 % en bolus + streptokinase 1 MU en 60 min + hparine en IV (5000 U en bolus, 1000 U/h (de prference 1200 U/h si >80 kg), poursuivi au moins 48 h) versus Streptokinase 1.5 MU en 60 min + hparine SC (12500 U 2 fois/j commence 4h aprs thrombolytique) combin streptokinase (1.5 MU en 60 min) + hparine en IV (5000 U en bolus, puis 1000 U/h (1200 U/h si >80 kg) poursuivi au moins 48 h)	Hommes et femmes	Parallel groups International 15 countries
accelerated t-PA vs t-PA			
RAAMI , 1992 n=143/138 follow-up: hospital stay	100 mg of rt-PA accelerated 90-min regimen (15-mg bolus followed by 50 mg over 30 min, then 35 mg over 60 min) versus 100 mg of rt-PA standard 3-h infusion regimen (an initial 10-mg bolus followed by 50 mg for the 1st h, then 20 mg/h for 2 h	patients with acute myocardial infarction within 6h from onset of chest pain	Parallel groups open US

continued...

Trial	Treatments	Patients	Trials design and methods
t-PA + urokinase vs t-PA			
TAMI 5 (t-PA+uroK vs tPA) , 1991 n=194/191 follow-up:	t-PA + urokinase versus t-PA	patient with acute myocardial infarction	open
t-PA half dose vs t-PA			
KAMIT , 1991 n=109/107 follow-up: hospital stay	half-dose (50 mg) t-PA with streptokinase (1.5 MU) during 1 hour versus t-PA (100 mg) during 3 hours	patients within 6 hours of myocardial infarction	Parallel groups open USA
t-PA vs urokinase			
TAMI 5 (t-PA vs uroK) , 1991 n=191/190 follow-up:	accelerated t-PA 100mg over 3h versus urokinase IV bolus 1.5 MU followed by 1.5 MU over 90min	patient with acute myocardial infarction	open

More details and results :

- myocardial revascularization for acute myocardial infarction in all type of patients at <http://www.trialresultscenter.org/go-Q129>
- Late revascularisation for acute myocardial infarction in late reperfusion at <http://www.trialresultscenter.org/go-Q134>
- myocardial revascularization for acute myocardial infarction in ≤ 6 h from onset of symptoms at <http://www.trialresultscenter.org/go-Q249>
- fibrinolysis for acute myocardial infarction in all type of patients at <http://www.trialresultscenter.org/go-Q260>
- fibrinolysis for acute myocardial infarction in ≤ 6 h from onset of symptoms at <http://www.trialresultscenter.org/go-Q261>

References

ASSET, 1988:

Wilcox RG, von der Lippe G, Olsson CG, Jensen G, Skene AM, Hampton JR Trial of tissue plasminogen activator for mortality reduction in acute myocardial infarction. Anglo-Scandinavian Study of Early Thrombolysis (ASSET). Lancet 1988 Sep 3;2:525-30 [2900919]

LATE, 1993:

Late Assessment of Thrombolytic Efficacy (LATE) study with alteplase 6-24 hours after onset of acute myocardial infarction. Lancet 1993 Sep 25;342:759-66 [8103874]

TAMI 6, 1992:

Topol EJ, Califf RM, Vandormael M, Grines CL, George BS, Sanz ML, Wall T, O'Brien M, Schwaiger M, Aguirre FV A randomized trial of late reperfusion therapy for acute myocardial infarction. Thrombolysis and Angioplasty in Myocardial Infarction-6 Study Group. Circulation 1992 Jun;85:2090-9 [1591828]

COBALT, 1997:

A comparison of continuous infusion of alteplase with double-bolus administration for acute myocardial infarction. The Continuous Infusion versus Double-Bolus Administration of Alteplase (COBALT) Investigators. *N Engl J Med* 1997 Oct 16;337:1124-30 [9340504]

TAPS, 1992:

Neuhaus KL, von Essen R, Tebbe U, Vogt A, Roth M, Riess M, Niederer W, Forycki F, Wirtzfeld A, Maeurer W Improved thrombolysis in acute myocardial infarction with front-loaded administration of alteplase: results of the rt-PA-APSAC patency study (TAPS) *J Am Coll Cardiol* 1992 Apr;19:885-91 [1552106]

TIMI 4, 1994:

Cannon CP, McCabe CH, Diver DJ, Herson S, Greene RM, Shah PK, Sequeira RF, Leya F, Kirshenbaum JM, Magorien RD Comparison of front-loaded recombinant tissue-type plasminogen activator, anistreplase and combination thrombolytic therapy for acute myocardial infarction: results of the Thrombolysis in Myocardial Infarction (TIMI) 4 trial. *J Am Coll Cardiol* 1994 Dec;24:1602-10 [7963104]

GUSTO tPA Hiv, 1993:

An international randomized trial comparing four thrombolytic strategies for acute myocardial infarction. The GUSTO investigators. *N Engl J Med* 1993 Sep 2;329:673-82 [8204123]

International Study Group, 1990:

In-hospital mortality and clinical course of 20,891 patients with suspected acute myocardial infarction randomised between alteplase and streptokinase with or without heparin. The International Study Group. *Lancet* 1990;336:71-5 [1975322]

Centre Illinois, 1993:

Taylor GJ, Moses HW, Koester D, Colliver JA, Katholi RE, Dove JT, Woodruff RC, Mikell FL, Becker LC, Sheehan FH A difference between front-loaded streptokinase and standard-dose recombinant tissue-type plasminogen activator in preserving left ventricular function after acute myocardial infarction (the Central Illinois Thrombolytic Therapy Study). *Am J Cardiol* 1993;72:1010-4 [8213579]

Cherng, 1992:

Cherng WJ, Chiang CW, Kuo CT, Lee CP, Lee YS A comparison between intravenous streptokinase and tissue plasminogen activator with early intravenous heparin in acute myocardial infarction. *Am Heart J* 1992;123:841-6 [1549990]

ECSG, 1985:

Verstraete M, Bernard R, Bory M, Brower RW, Collen D, de Bono DP, Erbel R, Huhmann W, Lennane RJ, Lubsen J Randomised trial of intravenous recombinant tissue-type plasminogen activator versus intravenous streptokinase in acute myocardial infarction. Report from the European Cooperative Study Group for Recombinant Tissue-type Plasminogen Activator. *Lancet* 1985;1:842-7 [2858711]

GISSI II, 1990:

GISSI-2: a factorial randomised trial of alteplase versus streptokinase and heparin versus no heparin among 12,490 patients with acute myocardial infarction. Gruppo Italiano per lo Studio della Sopravvivenza nell'Infarto Miocardico. *Lancet* 1990;336:65-71 [1975321]

ISIS III (SK/tPA), 1992:

ISIS-3: a randomised comparison of streptokinase vs tissue plasminogen activator vs anistreplase and of aspirin plus heparin vs aspirin alone among 41,299 cases of suspected acute myocardial infarction. ISIS-3 (Third International Study of Infarct Survival) Collaborative Group. *Lancet* 1992 Mar 28;339:753-70 [1347801]

PAIMS, 1989:

Magnani B Plasminogen Activator Italian Multicenter Study (PAIMS): comparison of intravenous recombinant single-chain human tissue-type plasminogen activator (rt-PA) with intravenous streptokinase in acute myocardial infarction. *J Am Coll Cardiol* 1989;13:19-26 [2491867]

TIMI-1, 1987:

Chesebro JH, Knatterud G, Roberts R, Borer J, Cohen LS, Dalen J, Dodge HT, Francis CK, Hillis D, Ludbrook P Thrombolysis in Myocardial Infarction (TIMI) Trial, Phase I: A comparison between intravenous tissue plasminogen activator and intravenous streptokinase. Clinical findings through hospital discharge. *Circulation* 1987;76:142-54 [3109764]

White, 1989:

White HD, Rivers JT, Maslowski AH, Ormiston JA, Takayama M, Hart HH, Sharpe DN, Whitlock RM, Norris RM Effect of intravenous streptokinase as compared with that of tissue plasminogen activator on left ventricular function after first myocardial infarction. *N Engl J Med* 1989;320:817-21 [2494454]

GUSTO tPA-SK Hiv, 1993:

An international randomized trial comparing four thrombolytic strategies for acute myocardial infarction. The GUSTO investigators. *N Engl J Med* 1993 Sep 2;329:673-82 [8204123]

RAAMI, 1992:

Carney RJ, Murphy GA, Brandt TR, Daley PJ, Pickering E, White HJ, McDonough TJ, Vermilya SK, Teichman SL Randomized angiographic trial of recombinant tissue-type plasminogen activator (alteplase) in myocardial infarction. RAAMI Study Investigators. *J Am Coll Cardiol* 1992 Jul;20:17-23 [1607520]

TAMI 5 (t-PA+uroK vs tPA), 1991:

Califf RM, Topol EJ, Stack RS, Ellis SG, George BS, Kereiakes DJ, Samaha JK, Worley SJ, Anderson JL, Harrelson-Woodlief L Evaluation of combination thrombolytic therapy and timing of cardiac catheterization in acute myocardial infarction. Results of thrombolysis and angioplasty in myocardial infarction—phase 5 randomized trial. TAMI Study Group. *Circulation* 1991 May;83:1543-56 [1902405]

KAMIT, 1991:

Grines CL, Nissen SE, Booth DC, Gurley JC, Chelliah N, Wolf R, Blankenship J, Branco MC, Bennett K, DeMaria AN A prospective, randomized trial comparing combination half-dose tissue-type plasminogen activator and streptokinase with full-dose tissue-type plasminogen activator. Kentucky Acute Myocardial Infarction Trial (KAMIT) Group. *Circulation* 1991;84:540-9 [1907228]

TAMI 5 (t-PA vs uroK), 1991:

Califf RM, Topol EJ, Stack RS, Ellis SG, George BS, Kereiakes DJ, Samaha JK, Worley SJ, Anderson JL, Harrelson-Woodlief L Evaluation of combination thrombolytic therapy and timing of cardiac catheterization in acute myocardial infarction. Results of thrombolysis and angioplasty in myocardial infarction—phase 5 randomized trial. TAMI Study Group. *Circulation* 1991 May;83:1543-56 [1902405]

2 acute coronary syndrome

Trial	Treatments	Patients	Trials design and methods
t-PA vs placebo			
Nicklas , 1989 n=20/20 follow-up:	rt-PA, 150 mg/8 h versus placebo	patients with rest angina, angiographically documented coronary artery disease and pacing-induced ischemia	Parallel groups Double blind USA

continued...

Trial	Treatments	Patients	Trials design and methods
Gold , 1987 n=12/12 follow-up:	intravenous recombinant human tissue-type plasminogen activator (rt-PA). versus placebo	chest pain at rest with transient ST segment deviation of at least 1 mm	Parallel groups
Williams , 1990 n=45/22 follow-up:	tissue-type plasminogen activator (rt-PA) (0.75 mg/kg over 1 hour or (0.75 mg/kg over 1 hour; total dose, 100 mg over 6 hours) versus placebo	rest angina and angiographic evidence of coronary stenosis	Parallel groups double blind USA
Freeman , 1992 n=35/35 follow-up: in hospital	tissue-type plasminogen activator (t-PA) (0.49 MU/kg for 1 hour followed by 0.07 MU/kg per hour for 9 hours) versus placebo	patients with unstable angina	Parallel groups double blind USA
van der Brand , 1991 n=19/17 follow-up: hospital stay	alteplase 100 mg in 3 h versus placebo	patients with angina at rest, despite bedrest and medical treatment	Parallel groups double blind The Netherlands
charbonnier , 1992 n=25/25 follow-up:	rt-PA 100 mg/90 minutes (10 mg bolus + 90 mg/90 minutes) versus placebo	unstable angina pectoris	Parallel groups double blind
Ardissino , 1990 n=12/12 follow-up: in hospital	recombinant tissue-type plasminogen activator (rt-PA) followed by heparin versus heparin alone	unstable angina refractory to conventional medical treatment	Parallel groups double blind Italy
TIMI 3B , 1995 n=729/744 follow-up: 1 year	tissue-type plasminogen activator (t-PA) versus placebo	patients with unstable angina and non-Q wave myocardial infarction	Factorial plan Double blind
Topol , 1988 n=20/20 follow-up: hospital stay	intravenous tissue plasminogen activator (t-PA) versus placebo	patients with angina at rest and provokable ischemia (pacing induced)	Parallel groups open USA
TIMI 3A , 1993 n=150/156 follow-up: hospital stay	90-minute front-loaded infusion of t-PA (0.8 mg/kg i.v.; maximum, 80 mg) versus placebo	patients with unstable angina or non-Q wave myocardial infarction	Parallel groups double blind USA, canada

More details and results :

- myocardial revascularization for acute coronary syndrome in all type of patients at <http://www.trialresultscenter.org/go-Q22>

- fibrinolysis for acute coronary syndrome in all type of patients at <http://www.trialresultscenter.org/go-Q223>

References

Nicklas, 1989:

Nicklas JM, Topol EJ, Kander N, O'Neill WW, Walton JA, Ellis SG, Gorman L, Pitt B Randomized, double-blind, placebo-controlled trial of tissue plasminogen activator in unstable angina. *J Am Coll Cardiol* 1989;13:434-41 [2492325]

Gold, 1987:

Gold HK, Johns JA, Leinbach RC, Yasuda T, Grossbard E, Zusman R, Collen D A randomized, blinded, placebo-controlled trial of recombinant human tissue-type plasminogen activator in patients with unstable angina pectoris. *Circulation* 1987 Jun;75:1192-9 [3105913]

Williams, 1990:

Williams DO, Topol EJ, Califf RM, Roberts R, Mancini GB, Joelson JM, Ellis SG, Kleiman NS Intravenous recombinant tissue-type plasminogen activator in patients with unstable angina pectoris. Results of a placebo-controlled, randomized trial. *Circulation* 1990 Aug;82:376-83 [2115407]

Freeman, 1992:

Freeman MR, Langer A, Wilson RF, Morgan CD, Armstrong PW Thrombolysis in unstable angina. Randomized double-blind trial of t-PA and placebo. *Circulation* 1992;85:150-7 [1728444]

van der Brand, 1991:

van den Brand M, van Zijl A, Geuskens R, de Feyter PJ, Serruys PW, Simoons ML Tissue plasminogen activator in refractory unstable angina. A randomized double-blind placebo-controlled trial in patients with refractory unstable angina and subsequent angioplasty. *Eur Heart J* 1991;12:1208-14 [1782951]

Charbonnier, 1992:

Charbonnier B, Bernadet P, Schiele F, Thery C, Baudouy M, Bauters C [Intravenous thrombolysis by recombinant plasminogen activator (rt-PA) in unstable angina. A randomized multicenter study versus placebo] *Arch Mal Coeur Vaiss* 1992;85:1471-7 [1297297]

Ardissino, 1990:

Ardissino D, Barberis P, De Servi S, Mussini A, Rolla A, Visani L, Specchia G Recombinant tissue-type plasminogen activator followed by heparin compared with heparin alone for refractory unstable angina pectoris. *Am J Cardiol* 1990;66:910-4 [2121016]

TIMI 3B, 1995:

Anderson HV, Cannon CP, Stone PH, Williams DO, McCabe CH, Knatterud GL, Thompson B, Willerson JT, Braunwald E One-year results of the Thrombolysis in Myocardial Infarction (TIMI) IIIB clinical trial. A randomized comparison of tissue-type plasminogen activator versus placebo and early invasive versus early conservative strategies in unstable angina and non-Q wave myocardial infarction. *J Am Coll Cardiol* 1995;26:1643-50 [7594098]

Topol, 1988:

Topol EJ, Nicklas JM, Kander NH, Walton JA, Ellis SG, Gorman L, Pitt B Coronary revascularization after intravenous tissue plasminogen activator for unstable angina pectoris: results of a randomized, double-blind, placebo-controlled trial. *Am J Cardiol* 1988;62:368-71 [2970776]

TIMI 3A, 1993:

Early effects of tissue-type plasminogen activator added to conventional therapy on the culprit coronary lesion in patients presenting with ischemic cardiac pain at rest. Results of the Thrombolysis in Myocardial Ischemia (TIMI IIIA) Trial. *Circulation* 1993 Jan;87:38-52 [8419023]

3 pulmonary embolism

Trial	Treatments	Patients	Trials design and methods
half-dose t-PA vs no fibrinolysis			
MOPETT , 2012 n=NA follow-up: 28 months	half-dose thrombolysis versus standard regimen of anticoagulants alone	patients presenting with moderate PE	Parallel groups open
rt-PA vs no fibrinolysis			
PAIMS 2 , 1992 n=NA follow-up: 7 days	rt-PA 100 mg IV over 2 h and heparin versus Heparin 1750 IU/hr i.v. for 7 to 10 days	patients with angiographically documented pulmonary embolism	Parallel groups open Italy
Goldhaber , 1993 n=46/55 follow-up: 14 days	rt-PA 100 mg IV over 2 h then 1000 U/hr heparin,when PTT or TT was <2 times control. Subsequent heparin dose achieved PTT = 1.5 to 2.5 times the upperlimit of normal. versus heparin, initial dose 5000 U bolus followed by 1000 U/hr continuous i.v., 4 hr after the dose of heparin according to PTT. Target PTT = 1.5 to 2.5 times of normal	haemodynamically stable patients with acute pulmonary embolism	Parallel groups open US
rt-PA vs placebo			
Konstantinides , 2002 n=118/138 follow-up: <30 days	100 mg alteplase given as 10 mg bolus followed by 90 mg i.v. infusion over 2 hours then i.v. heparin 1000 U/hr adjusted to maintain APTT of 2.0 to 2.5times the upper normal limit. Oral anticoagulation was started on day 3 versus placebo + i.v. heparin 1000 U/hr adjusted to maintain APTT of 2.0 to 2.5times the upper normal limit. Oral anticoagulation was started on day 3	patients with acute pulmonary embolism and pulmonary hypertensionor right ventricular dysfunction but withoutarterial hypotension or shock	Parallel groups double blind Germany
PIOPED , 1990 n=9/4 follow-up: 7 days	rt-PA 4080 mg IV over 90 min plus heparin versus placebo+heparin	patients with acute pulmonary embolism	Parallel groups double blind US

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Trial	Treatments	Patients	Trials design and methods
Levine , 1990 n=33/25 follow-up: 10 days	rt-PA 0.6 mg/kg IV over 2 min and heparin, initial bolus of 5000 U, then 30,000 U for first 24 hr continuous infusion,only interrupted for the duration of the study drug infusion versus placebo + heparin bolus of 5000 U, then 30,000 U for first 24 hr continuous infusion	patients with objectively established acute symptomatic pulmonary embolism	Parallel groups double blind Canada

More details and results :

- fibrinolysis for pulmonary embolism in all type of patients at <http://www.trialresultscenter.org/go-Q110>

References

MOPETT, 2012:

PAIMS 2, 1992:

Dalla-Volta S, Palla A, Santolicandro A, Giuntini C, Pengo V, Visioli O, Zonzin P, Zanuttini D, Barbaresi F, Agnelli G PAIMS 2: alteplase combined with heparin versus heparin in the treatment of acute pulmonary embolism. Plasminogen activator Italian multicenter study 2. J Am Coll Cardiol 1992;20:520-6 [1512328]

Goldhaber, 1993:

Goldhaber SZ, Haire WD, Feldstein ML, Miller M, Toltzis R, Smith JL, Taveira da Silva AM, Come PC, Lee RT, Parker JA Alteplase versus heparin in acute pulmonary embolism: randomised trial assessing right-ventricular function and pulmonary perfusion. Lancet 1993;341:507-11 [8094768]

Konstantinides, 2002:

Konstantinides S, Geibel A, Heusel G, Heinrich F, Kasper W Heparin plus alteplase compared with heparin alone in patients with submassive pulmonary embolism. N Engl J Med 2002;347:1143-50 [12374874]

PIOPED, 1990:

Tissue plasminogen activator for the treatment of acute pulmonary embolism. A collaborative study by the PIOPED Investigators. Chest 1990;97:528-33 [2106408]

Levine, 1990:

Levine M, Hirsh J, Weitz J, Cruickshank M, Neemeh J, Turpie AG, Gent M A randomized trial of a single bolus dosage regimen of recombinant tissue plasminogen activator in patients with acute pulmonary embolism. Chest 1990;98:1473-9 [2123152]

4 cardiac arrest

Trial	Treatments	Patients	Trials design and methods
t-PA vs placebo			

continued...

Trial	Treatments	Patients	Trials design and methods
Abu-Laban , 2002 n=117/116 follow-up:	t-PA 100mg over a 15-minute period versus placebo	Victims of cardiac arrest with pulseless electrical activity for more than one minute and had had no palpable pulse for more than three minutes during resuscitative efforts and at the time of the initiation of the study drug	Parallel groups double blind Canda

More details and results :

- fibrinolysis for cardiac arrest in all type of patients at <http://www.trialresultscenter.org/go-Q239>

References

Abu-Laban, 2002:

Abu-Laban RB, Christenson JM, Innes GD, van Beek CA, Wanger KP, McKnight RD, MacPhail IA, Puskaric J, Sadowski RP, Singer J, Schechter MT, Wood VM
Tissue plasminogen activator in cardiac arrest with pulseless electrical activity. N Engl J Med 2002;346:1522-8 [12015391]

Entry terms: rt-PA, Tissue Plasminogen Activator, Tissue Activator D-44, Tissue Activator D 44, Tisokinase, Tissue-Type Plasminogen Activator, Tissue Type Plasminogen Activator, TTPA, T-Plasminogen Activator, T Plasminogen Activator, Alteplase, Activase, Actilyse, Lysatec rt-PA, Lysatec rt PA, Lysatec rtPA, , streptokinase, t-pa