

Clinical trials of antiarrhythmic drugs for acute myocardial infarction in all type of patients

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1 antiarrhythmic

Trial	Treatments	Patients	Trials design and methods
dofetilide vs placebo			
DIAMOND MI , 1997 n=NA follow-up: >12 months	dofetilide versus placebo	patients with acute myocardial infarction within 7 days and left ventricular systolic dysfunction (EF <= 35%)	Parallel groups double blind Danish
morizine vs placebo			
CAST II (early treatment) , 1992 n=665/660 follow-up: 14 days	morizine for 14 days versus placebo	acute myocardial infarction	Parallel groups double blind

References

DIAMOND MI, 1997:

Dofetilide in patients with left ventricular dysfunction and either heart failure or acute myocardial infarction: rationale, design, and patient characteristics of the DIAMOND studies. Danish Investigations of Arrhythmia and Mortality ON Dofetilide. Clin Cardiol 1997;20:704-10 [[9259163](#)]

CAST II (early treatment), 1992:

Effect of the antiarrhythmic agent moricizine on survival after myocardial infarction. The Cardiac Arrhythmia Suppression Trial II Investigators. N Engl J Med 1992 Jul 23;327:227-33 [[1377359](#)]

2 magnesium

Trial	Treatments	Patients	Trials design and methods
magnesium vs control			
ISIS-4 , 1995 n=29011/29030 follow-up:	24 h of intravenous magnesium sulphate (8 mmol initial bolus injection over about 15 minutes followed by 72 mmol in about 50 mL infused over 24 h) ⁴ versus no magnesium infusion	patients entering 1086 hospitals up to 24 h (median 8 h) after the onset of suspected acute myocardial infarction with no clear contraindications ⁴	Parallel groups open

continued...

Trial	Treatments	Patients	Trials design and methods
Wu , 1992 n=125/102 follow-up:	2.5 g MgSO4 once or twice a day for 7-14 days versus usual care	suspected AMI	Parallel groups double blind
Zhu , 2002 n=1691/1488 follow-up:	100 mL (4 g) potassium-magnesium aspartate IV. for the first day, 50 ml for rest 4 days versus routine AMI treatment	AMI	Parallel groups open
magnesium vs placebo			
Abraham , 1987 n=48/46 follow-up:	2.4g of magnesium sulfate in 50 ml of 5% glucose solution intravenously over a 20 minutes period for 3 days versus 50 ml of 5% glucose solution alone,	patients with AMI	Parallel groups double blind
MAGIC , 2000 [NCT00000610] n=3113/3100 follow-up:	2 g intravenous bolus of MgSO4 over 15 minutes, followed by a 17 g infusion of MgSO4 over 24 h versus matched intravenous bolus and 24 h infusion of sterile water	AMI patients within 6 h of onset of symptoms	Parallel groups double blind
Bhargava , 1995 n=40/38 follow-up:	8 mmol magnesium sulphate over 5 min followed by 65 mmol over 24-h infusion versus isotonic saline infusion	proven AMI patients with chest pain of 1-6h	Parallel groups double blind
Ceremuzynski , 1989 n=25/23 follow-up:	8 g MgSO4 in 500 mL 15% glucose for 24 h intravenously versus conventional treatment	patients with AMI within 12 h from onset of symptoms	Parallel groups NA
Chen , 1991 n=32/30 follow-up:	MgSO4 2g/day for 3 days versus 5% glucose	patients with AMI	Parallel groups open blind assessor
Feldstedt , 1991 n=150/148 follow-up:	continuous infusion of 80 mmol magnesium chloride in 1000 mL dextrose versus matching placebo	patients, aged 75 y or less, with suspected AMI less than 8 h+	Parallel groups double blind
Gyاملani , 2000 n=50/50 follow-up:	magnesium 12g (50 mmol) in the first 24h, 3g (12 mmol) in the second 24h used within 2h after admission and within 30 minutes of thrombolytic therapy versus equal volume of isotonic glucose	patients with proven AMI	Parallel groups double blind
Ising , 1990 n=22/20 follow-up:	81 mval/day magnesium sulphate infusion 13+/-9h after the onset of severe pain for 3 days versus 80 mval/day NaCl infusion for 3 days	patients with AMI	Parallel groups open

continued...

Trial	Treatments	Patients	Trials design and methods
Morton , 1984 n=NA follow-up:	36 h intravenous infusion of magnesium sulphate (0.75 mEq/kg/body weight/12 h). versus saline solution infusion	patients with AMI within 8 h of onsetmag	Parallel groups double blind
Nakashima , 2004 n=89/91 follow-up:	bolus injection of 8 mmol of magnesium followed by an infusion of 24 mmol over 24 h versus equivalent amount of normal saline, imag	patients with successful PCI weree, imag	Parallel groups double blind
Parikka , 1990 n=31/26 follow-up:	8mmol MgSO4 in 10 min, 62 mmol in 24hmag versus NaClB	patients with <12 h from onset of chest pain AMImage/pj	Parallel groups double blind
Raghu , 1999 n=181/169 follow-up:	18 g (75.6 mmol) of Mg sulphate over 24 h started immediately after completion of thrombolytic therapy versus equivalent amount of salinexbitm	confirmed AMI <6 h from the onset of symptomsce	Parallel groups double blind
Rasmussen , 1986 n=56/74 follow-up:	50 mmol MgCl2 during the first 24 h, 12 mmol during the second 24 h versus isotonic glucose	patients with suspected AMIxbitm	Parallel groups double blind
Santoro , 2000 n=75/75 follow-up:	MgSO4 7 g (28 mmol) with 5 hon versus matching saline solution	-	Parallel groups double blind
Shechter , 1990 n=50/53 follow-up:	magnesium 22 g (91.6 mmol) within 48 h (67 mmol within first 24 h). versus isotonic glucose.	patients with admission diagnosis of AMI	Parallel groups double blind
Shechter , 1991 n=21/25 follow-up:	22 g (91.6 mmol) within 48 h (67 mmol within first 24 h). versus isotonic glucose.	patients with documented AMIbitm	Parallel groups double blind
Shechter , 1995 n=96/98 follow-up:	magnesium 22 g (91.6mmol) within 48 h (67mmol within first 24 h)pj versus isotonic glucose	suspected with AMI and considered unsuitable candidates for thrombolysis	Parallel groups double blind
Singh , 1990 n=NA follow-up:	5 g (8.12 mmol) of MgSO4 daily for 4 daysptomsce versus 2% dextrose solution for 3 daysm	patients suspected with AMI within 8-12h of the onset of MI	Parallel groups double blind
Smith , 1986 n=92/93 follow-up:	65 mmol MgSO4 given over 24 h versus Saline	patients with suspected AMI h.tm	Parallel groups double blind
Thogersen , 1995 n=130/122 follow-up:	magnesium 50 mmol within 24 h versus isotonic NaCl.	patients with suspected AMI	Parallel groups double blind

continued...

Trial	Treatments	Patients	Trials design and methods
Urek , 1996 n=31/30 follow-up:	17 g MgSO4 with first 24 h.xbitm versus saline.	patients with documented AMIbitm	Parallel groups double blind
Woods , 1992 n=1159/1157 follow-up:	magnesium 8 mmol over 5 min, 65 mmol over 24h imag versus physiological saline hon	patients with suspected AMI in the preceding 24h	Parallel groups double blind

References

ISIS-4, 1995:

ISIS-4: a randomised factorial trial assessing early oral captopril, oral mononitrate, and intravenous magnesium sulphate in 58,050 patients with suspected acute myocardial infarction. ISIS-4 (Fourth International Study of Infarct Survival) Collaborative Group. *Lancet* 1995;345:669-85 [[7661937](#)]

Wu, 1992:

Zhu, 2002:

Abraham, 1987:

Abraham AS, Rosenmann D, Kramer M, Balkin J, Zion MM, Farbstien H, Eylath U Magnesium in the prevention of lethal arrhythmias in acute myocardial infarction. *Arch Intern Med* 1987;147:753-5 [[3548627](#)]

MAGIC, 2000:

Early administration of intravenous magnesium to high-risk patients with acute myocardial infarction in the Magnesium in Coronaries (MAGIC) Trial: a randomised controlled trial. *Lancet* 2002;360:1189-96 [[12401244](#)]

Bhargava, 1995:

Bhargava B, Chandra S, Agarwal VV, Kaul U, Vashishth S, Wasir HS Adjunctive magnesium infusion therapy in acute myocardial infarction. *Int J Cardiol* 1995;52:95-9 [[8749868](#)]

Ceremuzynski, 1989:

Ceremuzynski L, Jurgiel R, Kulakowski P, Gebalska J Threatening arrhythmias in acute myocardial infarction are prevented by intravenous magnesium sulfate. *Am Heart J* 1989;118:1333-4 [[2589170](#)]

Chen, 1991:

Feldstedt, 1991:

Feldstedt M, Boesgaard S, Bouchelouche P, Svenningsen A, Brooks L, Lech Y, Aldershvile J, Skagen K, Godtfredsen J Magnesium substitution in acute ischaemic heart syndromes. *Eur Heart J* 1991;12:1215-8 [[1782952](#)]

Gyamlani, 2000:

Ising, 1990:

Ising H, Rebentisch E, Bertschat F, Gnther T Correlations between ventricular arrhythmias and electrolyte disturbances after acute myocardial infarction. *Magn Trace Elem* 1990;9:205-11 [[2095164](#)]

Morton, 1984:

Morton BC, Nair RC, Smith FM, McKibbin TG, Poznanski WJ Magnesium therapy in acute myocardial infarction—a double-blind study. *Magnesium* 1984;3:346-52 [[6399346](#)]

Nakashima, 2004:

Nakashima H, Katayama T, Honda Y, Suzuki S, Yano K Cardioprotective effects of magnesium sulfate in patients undergoing primary coronary angioplasty for acute myocardial infarction. *Circ J* 2004;68:23-8 [[14695461](#)]

Parikka, 1990:

Parikka H, Toivonen L, Naukkarinen V, Tierala I, Pohjola-Sintonen S, Heikkil J, Nieminen MS Decreases by magnesium of QT dispersion and ventricular arrhythmias in patients with acute myocardial infarction. *Eur Heart J* 1999;20:111-20 [[10099907](#)]

Raghu, 1999:

Raghu C, Peddeswara Rao P, Seshagiri Rao D Protective effect of intravenous magnesium in acute myocardial infarction following thrombolytic therapy. *Int J Cardiol* 1999;71:209-15 [10636525]

Rasmussen, 1986:

Rasmussen HS, McNair P, Norregard P, Backer V, Lindeneg O, Balslev S Intravenous magnesium in acute myocardial infarction. *Lancet* 1986;1:234-6 [2868254]

Rasmussen HS, Suenson M, McNair P, Nrregrd P, Balslev S Magnesium infusion reduces the incidence of arrhythmias in acute myocardial infarction. A double-blind placebo-controlled study. *Clin Cardiol* 1987;10:351-6 [3297445]

Santoro, 2000:

SHREENIVAS, MESSER AL, JOHNSON RP, WHITE PD Prognosis in bundle branch block. I. Factors influencing the survival period in right bundle branch block. *Am Heart J* 1950;40:891-902 [14789731]

Shechter, 1990:

Shechter M, Hod H, Marks N, Behar S, Kaplinsky E, Rabinowitz B Beneficial effect of magnesium sulfate in acute myocardial infarction. *Am J Cardiol* 1990;66:271-4 [2195862]

Shechter, 1991:**Shechter, 1995:**

Shechter M, Hod H, Chouraqui P, Kaplinsky E, Rabinowitz B Magnesium therapy in acute myocardial infarction when patients are not candidates for thrombolytic therapy. *Am J Cardiol* 1995;75:321-3 [7856520]

Singh, 1990:

Singh RB, Singh NK, Niaz MA, Sharma JP Effect of treatment with magnesium and potassium on mortality and reinfarction rate of patients with suspected acute myocardial infarction. *Int J Clin Pharmacol Ther* 1996;34:219-25 [8738859]

Singh RB, Sircar AR, Rastogi SS, Garg V Magnesium and potassium administration in acute myocardial infarction. *Magnes Trace Elem* 1990;9:198-204 [2095163]

Smith, 1986:

Smith LF, Heagerty AM, Bing RF, Barnett DB Intravenous infusion of magnesium sulphate after acute myocardial infarction: effects on arrhythmias and mortality. *Int J Cardiol* 1986;12:175-83 [2427458]

Thogersen, 1995:

Thogersen AM, Johnson O, Wester PO Effects of intravenous magnesium sulphate in suspected acute myocardial infarction on acute arrhythmias and long-term outcome. *Int J Cardiol* 1995;49:143-51 [7543083]

Thogersen AM, Johnson O, Wester PO Effects of magnesium infusion on thrombolytic and non-thrombolytic treated patients with acute myocardial infarction. *Int J Cardiol* 1993;39:13-22 [7691765]

Urek, 1996:

Urek R, Halle J, Frank B, Goles T, Tomicic D, Mirat J, Kolevska-Kaniski T [Intravenous magnesium in acute myocardial infarct] *Lijec Vjesn* 1996;118:279-81 [9213716]

Woods, 1992:

Roffe C, Fletcher S, Woods KL Investigation of the effects of intravenous magnesium sulphate on cardiac rhythm in acute myocardial infarction. *Br Heart J* 1994;71:141-5 [8130021]

Woods KL, Fletcher S, Roffe C, Haider Y Intravenous magnesium sulphate in suspected acute myocardial infarction: results of the second Leicester Intravenous Magnesium Intervention Trial (LIMIT-2) *Lancet* 1992;339:1553-8 [1351547]

3 prophylactic lidocaine

Trial	Treatments	Patients	Trials design and methods
IM lidocaine (without infusion) vs control			

continued...

Trial	Treatments	Patients	Trials design and methods
Koster and Dunning , 1985 n=2987/3037 follow-up: 1h for VT	lidocaine loading dose IM 400 mg versus no lidocaine	suspected acute myocardial infarction	Parallel groups Single-blind
IV lidocaine infusion vs control			
Bennett , 1970 n=249/125 follow-up: 48h for VT	lidocaine loading dose IV 60mg, infusion 0.5-1.0 mg/min versus no lidocaine	suspected acute myocardial infarction	Parallel groups Open
Pitt , 1971 n=108/114 follow-up: 48h for VT	lidocaine loading dose IV 75-100mg, infusion 2.5 mg/min versus no lidocaine	suspected acute myocardial infarction	Parallel groups Open
Darby , 1972 n=103/100 follow-up: 48h for VT	lidocaine loading dose IM 200 mg, infusion 2.0 mg/min versus no lidocaine	suspected acute myocardial infarction	Parallel groups Open
IM lidocaine (without infusion) vs placebo			
Sandlar unpublished n=91/90 follow-up: 4h for VT	lidocaine loading dose IM 200mg or IM 300mg versus placebo	suspected acute myocardial infarction	Parallel groups Double-blind
Singh and Kocot , 1976 n=27/27 follow-up: 3h for VT	lidocaine loading dose IM 4.5 mg/kg versus placebo	suspected acute myocardial infarction	Parallel groups Double-blind
Lie (IM) , 1978 n=147/153 follow-up: 1h for VT	lidocaine loading dose IM 300 mg versus placebo	suspected acute myocardial infarction	Parallel groups Double-blind
Dunn , 1985 n=207/195 follow-up: 1h for VT	lidocaine loading dose IM 300 mg + IV 100mg versus placebo	suspected acute myocardial infarction within 6 hours of the onset of sympto	Parallel groups Double-blind
IV lidocaine infusion vs placebo			
Kostuk and Beanlands unpublished n=34/31 follow-up: 65279;48h for VT	lidocaine infusion 1.0 mg/min versus placebo	suspected acute myocardial infarction	Parallel groups 65279;Double-blind
Baker , 1971 n=21/23 follow-up: 48h for VT	lidocaine infusion 1.5 mg/min versus placebo	suspected acute myocardial infarction	Parallel groups Double-blind
Chopra , 1971 n=39/43 follow-up: 48h for VT	lidocaine loading dose IV 60mg, infusion 1.0-2.0 mg/min versus placebo	suspected acute myocardial infarction	Parallel groups Double-blind

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Trial	Treatments	Patients	Trials design and methods
O unpublished n=328/331 follow-up: 48h for VT	lidocaine loading dose IV 75 mg, infusion 2.5 mg/min versus placebo	suspected acute myocardial infarction	Parallel groups Double-blind
Lie (IV) , 1974 n=107/105 follow-up: 48h for VT	lidocaine loading dose IV 100 mg, infusion 3,0 mg/min versus placebo	suspected acute myocardial infarction	Parallel groups Double-blind
Wyse , 1988 n=168/165 follow-up: 24h for VT	lidocaine loading dose IV 100mg + IV 100 mg, infusion 3.0 mg/min versus placebo	suspected acute myocardial infarction	Parallel groups Double-blind

References

Koster and Dunning, 1985:

Koster RW, Dunning AJ Intramuscular lidocaine for prevention of lethal arrhythmias in the prehospitalization phase of acute myocardial infarction. N Engl J Med 1985;313:1105-10 [3900727]

Bennett, 1970:

Bennett MA, Wilner JM, Pentecost BL Controlled trial of lignocaine in prophylaxis of ventricular arrhythmias complicating myocardial infarction. Lancet 1970;2:909-11 [4097285]

Pitt, 1971:

Pitt A, Lipp H, Anderson ST Lignocaine given prophylactically to patients with acute myocardial infarction. Lancet 1971;1:612-6 [4101228]

Darby, 1972:

Darby S, Cruickshank JC, Bennett MA, Pentecost BL Trial of combined intramuscular and intravenous lignocaine in prophylaxis of ventricular tachyarrhythmias. Lancet 1972;1:817-9 [4111579]

Sandler, 0:

Singh and Kocot, 1976:

Singh JB, Kocot SL A controlled trial of intramuscular lidocaine in the prevention of premature ventricular contractions associated with acute myocardial infarction. Am Heart J 1976;91:430-6 [1258750]

Lie (IM), 1978:

Lie KI, Liem KL, Louridtz WJ, Janse MJ, Willebrands AF, Durrer D Efficacy of lidocaine in preventing primary ventricular fibrillation within 1 hour after a 300 mg intramuscular injection. A double-blind, randomized study of 300 hospitalized patients with acute myocardial infarction. Am J Cardiol 1978;42:486-8 [356578]

Dunn, 1985:

Dunn HM, McComb JM, Kinney CD, Campbell NP, Shanks RG, MacKenzie G, Adgey AA Prophylactic lidocaine in the early phase of suspected myocardial infarction. Am Heart J 1985;110:353-62 [3895875]

Kostuk and Beanlands, 0:

Baker, 1971:

Baker IA, Collins JV, Evans TR Prophylaxis of ventricular dysrhythmias following acute myocardial infarction: a double-blind trial of continuous intravenous infusion of lignocaine. Guys Hosp Rep 1971;120:1-7 [4934490]

Chopra, 1971:

Chopra MP, Thadani U, Portal RW, Aber CP Lignocaine therapy for ventricular ectopic activity after acute myocardial infarction: a double-blind trial. Br Med J 1971;3:668-70 [4936439]

O, 0:

Lie (IV), 1974:

DiBona G Letter: Measurement of plasma quinidine. N Engl J Med 1974;290:1325-6 [[4827635](#)]

Lie KI, Wellens HJ, van Capelle FJ, Durrer D Lidocaine in the prevention of primary ventricular fibrillation. A double-blind, randomized study of 212 consecutive patients. N Engl J Med 1974;291:1324-6 [[4610392](#)]

Wyse, 1988:

Wyse DG, Kellen J, Rademaker AW Prophylactic versus selective lidocaine for early ventricular arrhythmias of myocardial infarction. J Am Coll Cardiol 1988;12:507-13 [[3292630](#)]

4 About TrialResults-center.org

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