

Clinical trials of magnesium

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1 acute myocardial infarction

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
Wu , 1992 n=125/102 follow-up:	2.5 g MgSO ₄ 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 ^k	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, im	patients with AMI	Parallel groups double blind
MAGIC , 2000 [NCT00000610] n=3113/3100 follow-up:	2 g intravenous bolus of MgSO ₄ over 15 minutes, followed by a 17 g infusion of MgSO ₄ over 24 h versus matched intravenous bolus and 24 h infusion of sterile water nd	AMI patients within 6 h of onset of symptoms ^m	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

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Trial	Treatments	Patients	Trials design and methods
Ceremuzynski , 1989 n=25/23 follow-up:	8 g MgSO ₄ 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:	MgSO ₄ 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
Gyamlani , 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
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 onset	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	patients with successful PCI	Parallel groups double blind
Parikka , 1990 n=31/26 follow-up:	8mmol MgSO ₄ in 10 min, 62 mmol in 24h versus NaCl	patients with <12 h from onset of chest pain AMI	Parallel groups double blind

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Trial	Treatments	Patients	Trials design and methods
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
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

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Trial	Treatments	Patients	Trials design and methods
Woods , 1992 n=1159/1157 follow-up:	magnesium 8 mmol over 5 min, 65 mmol over 24h imaged versus physiological saline hon	patients with suspected AMI in the preceding 24h	Parallel groups double blind

More details and results :

- antiarrhythmic drugs for acute myocardial infarction in all type of patients at <http://www.trialresultscenter.org/go-Q130>

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